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SUMMARY
May 15, 2025

2025COA49M

**No. 23CA1183, *People v. Genrich* — Criminal Procedure —
Postconviction Remedies — New Trial Based on Newly
Discovered Evidence**

In the underlying case of this postconviction appeal, the defendant was convicted of two counts of first degree extreme indifference murder and multiple other felonies in connection with a series of pipe bombings from 1989 to 1991 in Grand Junction, Colorado. Nearly two decades after his conviction was finalized, the defendant filed a postconviction motion based on newly discovered evidence that the toolmark expert testimony presented at his original trial was no longer admissible. The postconviction court determined that the expert testimony from the original trial was “neutralized” by the new evidence and it granted a new trial.

On appeal, a division of the court of appeals holds that the postconviction court did not abuse its discretion when it granted a

new trial. The division concludes that the new evidence was sufficiently material, and not merely cumulative or impeaching of the evidence presented at the original trial. Specifically, the expert's conclusion that he matched tools found in the defendant's boarding house room to toolmarks on the bombs "to the exclusion of any other tool" and his remaining testimony was completely undermined by the new scientific evidence. The division further holds that, without the toolmark analysis testimony, there was support in the record for the postconviction court to conclude that it was probable for the jury to acquit the defendant of the crimes for which he was accused. Accordingly, the division affirms the order for a new trial.

Court of Appeals No. 23CA1183
Mesa County District Court No. 92CR95
Honorable Richard T. Gurley, Judge

The People of the State of Colorado,

Plaintiff-Appellant,

v.

James S. Genrich,

Defendant-Appellee.

ORDER AFFIRMED

Division IV
Opinion by JUSTICE MARTINEZ*
Yun and Kuhn, JJ., concur

Opinion Modified on the Court's Own Motion
Petition for Rehearing DENIED

Announced May 15, 2025

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*Sitting by assignment of the Chief Justice under provisions of Colo. Const. art. VI, § 5(3), and § 24-51-1105, C.R.S. 2024.

OPINION is modified as follows:

Deleted the following sentence at page 26, ¶ 39: In addition, the AFTE requires only “sufficient agreement” to verify a conclusion, meaning that examiners need only consult another toolmark examiner about their results for the conclusion to be considered valid and accurate.

¶ 1 Defendant, James S. Genrich, was convicted of two counts of first degree extreme indifference murder and multiple other felonies in connection with a series of pipe bombings from 1989 to 1991 in Grand Junction, Colorado. In 2016, nearly two decades after the supreme court denied certiorari on his direct appeal, Genrich filed a Crim. P. 35(c) motion based on newly discovered evidence. He alleged that the science underlying expert toolmark evidence presented at his original trial, which had connected tools found in his one-room boarding house apartment to toolmarks on the bombs, was no longer endorsed by mainstream science. Following a hearing ordered by a division of this court, the postconviction court determined that the expert testimony from the original trial was “neutralized” by the new evidence. Accordingly, it granted Genrich a new trial.

¶ 2 The People appeal, contending that the postconviction court abused its discretion by determining that the new evidence was sufficiently material to warrant a new trial. Instead, they argue it was merely for impeachment and cumulative of the original trial evidence. They also claim that even if the new evidence was sufficiently material, there is ample remaining evidence upon which

a jury could rely for a conviction. We conclude that the postconviction court acted within its discretion and, therefore, affirm.

I. Background

¶ 3 In the spring of 1991, a series of three pipe bombs were detonated in downtown Grand Junction. The first bomb exploded in February in the parking lot of the Two Rivers Plaza, severely injuring one person and damaging several cars. The second bomb was placed in the rear wheel well of a van parked at the Gonzales family's home in March. When it exploded, it killed a young girl who was sitting in the back seat of the van. The third bomb exploded in June, when a restaurant patron picked it up in the parking lot of the Feed Lot restaurant. The explosion instantly killed him.

¶ 4 While investigating the case, the police connected a fourth undetonated bomb discovered in the parking lot of the La Court Motel in 1989. The bomb bore notable similarities to the detonated 1991 bombs, such that the police concluded they were likely made by the same person.

¶ 5 The police suspected Genrich based on a tip and first contacted him in the summer of 1991. Genrich voluntarily spoke with the police and permitted them to search and collect evidence from his room at a boarding house. The police later returned with a warrant to collect tools that they believed could be used to make bombs, including needle-nosed pliers, slip-joint pliers, wire strippers, wire cutters, and a bag of miscellaneous wires, among other items. These tools, along with the undetonated 1989 bomb and fragments from the detonated 1991 bombs, were sent to what was then the Federal Bureau of Alcohol, Tobacco, and Firearms (ATF) for examination.

¶ 6 Based largely on the ATF's conclusion that the tools recovered from Genrich's boarding house room were the tools that created all four bombs, Genrich was indicted by a grand jury, and a trial was scheduled.

¶ 7 At trial, the prosecution began its opening statement by telling the jury that an expert in toolmark analysis, ATF Agent John O'Neil, identified toolmarks made by tools found in Genrich's boarding house room on all four bombs, to the exclusion of any other tool in the world. The prosecution emphasized O'Neil's credentials in his

field of expertise and foreshadowed that O'Neil would be able to support his conclusions with novel video footage of his examination.

¶ 8 O'Neil was qualified as an expert in firearm and toolmark analysis based on his more than twenty-two years of training and experience, several of which were at the ATF. O'Neil admitted that his work had not been published and that he did not have an advanced degree in toolmark analysis. However, he said that he had previously testified as an expert for both the prosecution and the defense in 465 cases.

¶ 9 The substance of O'Neil's testimony began with a description of the history and procedures of firearm and toolmark analysis. Toolmarks are the impressions — scratches, imprints, or striations — that hand-held tools make when they are used on softer metal. When analyzing the toolmarks, an examiner can make one of four determinations: (1) a match between the tool and the toolmark; (2) a nonmatch; (3) an inconclusive finding, when there is insufficient information to determine that a match exists; or (4) an elimination, when there is significant disagreement between examiners and verifiers. These determinations are based on the examiner's training and experience over the course of their career,

and the number of similarities that constitute a match between the tool and the toolmark is determined by the individual examiner.

O'Neil explained that toolmark analysis is based on individualization theory — the assumption that all tools, and the marks that they create, are unique and can be identified by matching a tool and its toolmarks.

¶ 10 O'Neil informed the jury that he had conducted an experiment to test this baseline assumption. He obtained two tools that were manufactured together on the same assembly line and compared the marks that they made in softer metal. He testified that “although there are similarities between these two tools, it was very easy to determine that these marks that they left behind were entirely different.” Based on the assumption that different tools left distinctly different marks, he explained, an examiner could determine the source of any toolmark, “to a degree of certainty to exclude any other tool.”

¶ 11 In this case, O'Neil testified that he made the following matches for the tools found in Genrich's boarding house room:

- The needle-nosed pliers cut two wires on the undetonated 1989 bomb.

- The slip-joint pliers made impressions on three of the end cap fragments recovered from the detonated bombs at the Gonzales home and the Feed Lot restaurant, presumably from tightening the caps to secure the bomb.
- The wire cutter cut a wire recovered from the Two Rivers bomb.

¶ 12 To support his conclusions, O’Neil showed the jury a video recording of his matching process. The video was taken through the lens of his comparison microscope. It showed his process of aligning light and dark striations to identify a match. While the video was playing for the jury, O’Neil narrated what was happening — for example, that he was adjusting zoom or the light, or looking at specific portions of the cut marks. O’Neil also used photos to illustrate the matches. For each match, he testified that his confidence in the match was “to the exclusion of any other tool.” He emphasized that his training and experience led to his certainty in his conclusions. O’Neil testified about his conclusions for nearly two days.

¶ 13 On cross-examination, defense counsel questioned O’Neil about several aspects of his analysis and conclusions. She

questioned O'Neil about test cuts he had discarded during his testing, which he consequently did not turn over to the defense. In discarding the test cuts, O'Neil had violated a court order, and the defense focused on this violation. In addition, defense counsel called into question his methodology by asking about biases, the subjectivity and lack of numeric support for his conclusions, and the lack of a database or reference points for his conclusions. She also confronted O'Neil with his colleague's conclusions that five out of the six matches he made were inconclusive.

¶ 14 To further contest O'Neil's testimony, the defense called a statistician, Don Searls, to testify about the validity and methodology of toolmark analysis. Searls criticized the absence of a database for toolmarks, testifying that this diminished the reliability of the toolmark matches. He also explained that he would expect there to be more error rate research and described the scientific procedure that would be required to conduct such research. He warned that there was likely bias in the verification process in this case, given the high statistical probability of a mismatch.

¶ 15 After a month-long trial and four days of deliberation, the jury convicted Genrich of all charges.

¶ 16 Genrich directly appealed his conviction, arguing in part that toolmark identification analysis was inadmissible under CRE 702. *People v. Genrich*, 928 P.2d 799, 801 (Colo. App. 1996) (*Genrich I*). A division of this court affirmed, citing other cases in which experts were permitted to testify about toolmark analysis and concluding that “there is ample legal support for the trial court’s conclusion that this type of evidence is accepted.” *Id.* at 802. The supreme court denied certiorari.

¶ 17 In 2016, Genrich filed the Crim. P. 35(c) motion at issue here. In this motion, he submitted an affidavit from Jay Siegel, a forensic scientist who served on the National Academy of Sciences Committee charged with studying the scientific validity of forensic science. Following two years of research, the committee found, among other conclusions, that toolmark examiners had been overstating the certainty and reliability of the individualization theory. Siegel opined that this research showed that expert opinions based on the individualization theory, like the one given by O’Neil in this case, were no longer supported by the greater scientific community.

¶ 18 Initially, the postconviction court denied the motion without a hearing, concluding that Genrich’s new evidence merely impeached O’Neil’s trial testimony. However, a division of this court, in a split opinion, reversed and remanded, finding that Genrich was entitled to a hearing because, if true, the newly discovered evidence would “dramatically increase his chances of obtaining an acquittal.”

People v. Genrich, 2019 COA 132M, ¶ 64 (*Genrich II*).

¶ 19 On remand, the postconviction court held a hearing in which three experts testified about the lack of reliability and validity in toolmark analysis, especially with regard to individualization theory, and critiqued the conclusions of the toolmark analysis done in this case. For its part, the prosecution countered with the testimony of three toolmark examiners who refuted Genrich’s experts, two of whom had personally verified the single agreed-upon match from Genrich’s original trial. In defense of their methodology, these experts insisted that they were unbiased because they did not know the wider context of the case before conducting their analyses and they took precautions to conduct their own independent analyses. They asserted that their analyses and protocols followed the Association of Firearm and Tool Mark Examiners (AFTE) standards

and were widely accepted among other firearm and toolmark examiners.

¶ 20 After the hearing concluded, the postconviction court determined that Genrich was entitled to a new trial based on the “rejection, by the scientific community, of the underlying methodology of toolmark analysis and, moreover, a rejection of the propriety of the conclusions drawn from that methodology by the People’s toolmark expert, John O’Neil — that several of the tools and wires from several of the bombs matched.” It explained that, under CRE 702, O’Neil’s conclusion that the matches could be made “to the exclusion of any other tool” was inadmissible based on the conflicting testimony between the defense experts and the prosecution’s experts. It also concluded that, although the rest of O’Neil’s testimony was admissible, the new evidence “call[ed] into question the validity of toolmark analysis and [the jury at a new trial] would hear evidence as to the potential bias that can be injected into toolmark analysis.”

¶ 21 The People now appeal the postconviction court’s decision.

II. Genrich's Motion for a New Trial

¶ 22 The People argue the postconviction court overestimated the material value of the new evidence. Although they do not contest the postconviction court's findings that the individualization testimony is inadmissible, they assert that the new evidence is simply impeaching and cumulative of the evidence presented at the 1993 trial. Furthermore, because the postconviction court only excluded a single conclusion — O'Neil's testimony that his matches were made "to the exclusion of any other tool in the world" — the rest of O'Neil's testimony, including his six matches, remains admissible. The People argue that this testimony, in combination with the other evidence presented at trial, supports the conviction, and the new evidence would probably not bring about an acquittal at a new trial. Therefore, according to their argument, the postconviction court erred in granting Genrich's motion for a new trial.

A. Legal Principles and Standard of Review

¶ 23 To succeed on a motion for a new trial based on newly discovered evidence, the defendant must establish that

- (1) the evidence was discovered after trial;

- (2) the defendant and his counsel exercised diligence to discover all favorable evidence prior to trial;
- (3) the newly discovered evidence is material to the issues involved, and not merely cumulative or impeaching; and
- (4) the newly discovered evidence is of such a character as to probably bring about an acquittal if presented at another trial.

People v. Gutierrez, 622 P.2d 547, 559-60 (Colo. 1981).

¶ 24 The postconviction court employed the correct test by analyzing each of the four prongs of the newly discovered evidence test. The People do not contest that Genrich satisfied prongs one and two: that the evidence was discovered after trial, and that the defendant exercised diligence to discover all favorable evidence prior to trial. Therefore, only prongs three and four are at issue in this case. Thus, the question on appeal is whether the new evidence is sufficiently material, and not merely cumulative and impeaching, such that it would probably bring about an acquittal if presented at another trial.

¶ 25 It is within a court's discretion to grant or deny a motion for a new trial based on newly discovered evidence. *People v. Bueno*,

2018 CO 4, ¶ 19 (reviewing for an abuse of discretion when the lower court granted the motion for a new trial); *see also People v. Hopper*, 284 P.3d 87, 92 (Colo. App. 2011) (reviewing for an abuse of discretion when the lower court denied the motion for a new trial); *People v. Jones*, 690 P.2d 866, 868 (Colo. App. 1984) (same); *Cheatwood v. People*, 435 P.2d 402, 405 (Colo. 1967) (same). A court abuses its discretion when its decision is manifestly arbitrary, unreasonable, or unfair. *People v. Clark*, 2015 COA 44, ¶ 14.

When the lower court’s conclusions are mixed, factual findings are reviewed for clear error, while legal conclusions are reviewed de novo. *Bueno*, ¶ 20. A court clearly errs if its finding is without support in the record. *Id.* In assessing whether a lower court’s decision is manifestly unreasonable, arbitrary, or unfair, we ask not whether we would have reached a different result but, rather, whether the court’s decision fell within a range of reasonable options. *People v. Rhea*, 2014 COA 60, ¶ 58. Thus, a court abuses its discretion only when its decision exceeds the bounds of the rationally available choices. *People v. Palacios*, 2018 COA 6M, ¶ 18; *see also People v. Hagos*, 250 P.3d 596, 610 (Colo. App. 2009) (“The

essence of a discretionary decision is that the trial court can choose among valid options in resolving an issue.”).

B. The Third Prong

¶ 26 Based on our review of the case law in Colorado and elsewhere, new evidence satisfies the third prong of the test if it overcomes two hurdles. First, it must be material — meaning of such consequence that it is likely to bring about acquittal. *Farrar v. People*, 208 P.3d 702, 706-07 (Colo. 2009) (citing *Digiiallonardo v. People*, 488 P.2d 1109, 1113 (Colo. 1971)). Second, when the new evidence impeaches a witness or is cumulative of other evidence, that witness must be crucial to the prosecution’s case and their testimony must be neutralized — or completely undermined — by the new evidence. *Genrich II*, ¶ 58 (citing *State v. Behn*, 868 A.2d 329, 344-46 (N.J. Super. Ct. App. Div. 2005)).

¶ 27 In *Farrar*, the supreme court mandated that new evidence must be material, meaning that it “must not only be relevant to material issues at trial but that it must also be of consequence to the outcome.” 208 P.3d at 706-07. The supreme court described the materiality of the new evidence as “consequential in the sense of being affirmatively probative of the defendant’s innocence, whether

that is accomplished by helping to demonstrate that someone else probably committed the crime; that the defendant probably could not have committed the crime; or even that the crime was probably not committed at all.” *Id.* at 707. Therefore, when considered with all other evidence at trial, the new evidence is material if “it would probably produce an acquittal.” *Id.* (citing *Digiallonardo*, 488 P.2d at 1113).

¶ 28 Other jurisdictions measure whether newly discovered evidence is sufficiently material, apart from its impeachment value or whether it was cumulative of other evidence presented at trial, using the *Brady v. Maryland*, 373 U.S. 83 (1963), standard. *Genrich II*, ¶ 58 (citing *Behn*, 868 A.2d at 344-45); *see also State v. Henries*, 704 A.2d 24, 35 (N.J. Super. Ct. App. Div. 1997); *More v. State*, 880 N.W.2d 487, 502 (Iowa 2016). Under that standard, a defendant’s due process rights are violated when the prosecution withholds evidence that is material to the defendant’s guilt. *Brady*, 373 U.S. at 87. When applied to a defendant’s request for a new trial based on newly discovered evidence, material evidence, which may also serve to impeach, can fall under the *Brady* rule when “the issue of the witness’ reliability and credibility is crucial.” *Genrich II*,

¶ 58 (quoting *Behn*, 868 A.2d at 345). Thus, to determine materiality, we look to whether the newly discovered evidence has sufficiently neutralized a crucial witness’s testimony such that it would probably lead the jury to acquit the defendant. *Farrar*, 208 P.3d at 707; *Genrich II*, ¶ 62.

¶ 29 In *Farrar*, the supreme court described a similar requirement regarding the testimony of a recanting witness. It emphasized that in recanting circumstances, the witness, who is impeaching their own prior testimony, must provide “sufficiently significant new evidence” (e.g., guarantees of trustworthiness, the context and circumstances of the recantation, or additional facts) that adds value beyond simply “different and irreconcilable testimony on different occasions.” *Farrar*, 208 P.3d at 708. Simply recanting testimony is not enough; there must be some other material value in order for the third prong to be satisfied. *Id.* at 706-07 (first citing *People v. Scheidt*, 528 P.2d 232, 233 (Colo. 1974); and then citing *Digiallonardo*, 488 P.2d at 1113).

¶ 30 We agree with the *Genrich II* majority that *Farrar* did not state a new test for newly discovered evidence. *Genrich II*, ¶ 44. As the *Genrich II* division concluded, *Farrar* and subsequent case law

applied the test from *People v. Muniz*, 928 P.2d 1352 (Colo. App. 1996). See *Genrich*, ¶¶ 45-51. Thus, we do not interpret *Farrar* as being in tension with prior case law applying the test for newly discovered evidence. Instead, we read *Farrar* as reiterating the definition for materiality from the third prong in terms of the fourth prong of the test. See *Farrar*, 208 P.3d at 707 (“We have described the required materiality of newly discovered evidence, or the extent to which it must be consequential to the outcome, in various terms, with varying degrees of precision, but at least since *Digiallonardo*, we have specified that it must be *such that it would probably produce an acquittal.*”) (emphasis added). In other words, *Farrar* reiterates that the materiality of the evidence is measured in terms of its ability to affect the outcome of the case. *Id.* Therefore, to be material as required by the third prong of the test, the evidence must satisfy the fourth prong — the newly discovered evidence would probably bring about an acquittal.

¶ 31 In this case, following a comprehensive review of the new evidence and the original trial, the postconviction court made three determinations. First, it examined what portion, if any, of O’Neil’s testimony would be admissible at a new trial. The court analyzed

O’Neil’s testimony under the requirements set forth for expert testimony in CRE 702 and concluded that there was scientific consensus that O’Neil’s confidence in his identification — that his matches were made to the exclusion of all other tools — was no longer admissible. Therefore, this conclusion could not be presented to the jury at a new trial.

¶ 32 Second, the postconviction court determined that O’Neil’s individualization testimony was “effectively neutralized” by the new evidence:

[W]hile much of Agent O’Neil’s testimony might still be admissible, a jury would have the opportunity on retrial to hear the substantial amount of newly discovered evidence that calls into question the validity of toolmark analysis and would hear evidence as to the potential bias that can be injected into toolmark analysis.

¶ 33 Finally, the postconviction court determined that the inadmissible testimony was “crucial” to the case. It found that the other evidence composing the prosecution’s case was “almost entirely circumstantial” and, therefore, was unlikely to convince a jury beyond a reasonable doubt.

¶ 34 The People do not contend that the postconviction court erred in making its first determination, that O’Neil’s confidence in his conclusion is inadmissible. Instead, they assert that the court erred in its second conclusion and argue that the remainder of O’Neil’s admissible testimony, including the six matches and the video, narrations, and photographic evidence that support them, is all still admissible. This evidence, they argue, is merely impeached by the newly discovered evidence or cumulative of the evidence presented at the original trial. In other words, the postconviction court erred by determining that the new evidence has other material value, independent from impeachment. We disagree.

¶ 35 The postconviction court characterized the new evidence offered by Genrich as “a rejection, by the scientific community, of the underlying methodology of toolmark analysis and, moreover a rejection of the conclusions drawn from that methodology by the People’s toolmark expert, John O’Neil — that several of the tools and wires from several of the bombs matched.” In support of this, the defense offered three reports: *Ballistic Imaging* (2008) by the National Research Council of the National Academies (NRC Report); *Strengthening Forensic Science in the United States: A Path Forward*

(2009) by the National Research Council of the National Academies (NAS Report); and *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (2016) by the President's Council of Advisors on Science and Technology, Executive Office of the President (PCAST Report). It also offered an affidavit from one of the authors of the NAS Report, Jay Siegel, and the testimony of three experts, David Faigman, Intiel Dror, and Michael Salyards.

¶ 36 At the hearing, the defense experts began by discussing the NRC Report, NAS Report, and PCAST Report, which each provided insights into the research and scientific methodology underlying the toolmark analysis conducted by O'Neil and the verifiers in this case. In those reports, researchers found that there were insufficient studies to support testimony on individualization theory or a standardized error rate for examiners. The experts explained that

this research raised questions about the foundational validity¹ of the science as it existed at the time of the reports. The experts emphasized that while this research did not exist at the time of Genrich's trial, and could not have been raised during cross-examination, it can be used as an indicator for the scientific environment in which O'Neil and the verifiers conducted their analyses in this case.

¶ 37 In response to the criticism in the NRC and NAS Reports, the experts explained that three experiments were conducted to discern the accuracy and reliability, or error rate, of toolmark examiners.² The experts warned that although these studies reported relatively

¹ Faigman, an expert in scientific methodology, research design, and statistics and applied science, described several of the components of foundational validity during his testimony. At the outset, he would expect examiners' conclusions to be both valid, meaning accurate as to some ground truth, and reliable, meaning consistent across different examiners and repeatable. Faigman noted that foundational validity requires internal validity (using the experimental method, including controlling for different settings and subjects), external validity (generalizability of the study to different settings and subjects), reproducibility (if the study can be repeated with the same or similar results), reliability (considering the error rate and confidence in conclusions), and convergent validity (different experimental designs to test assumptions).

² Faigman discussed three firearm studies in particular: the Ames I, Keisler, and Ames II studies. He testified that no studies of this kind have been performed on hand-held tools.

low error rates for examiners (approximately 1%), the error rates significantly increased (ranging from approximately 20% to 54%) when inconclusive results were counted as incorrect.³ One study found that when given the same test, examiners were either incorrect or did not reach the same result approximately 70% of the

³ An inconclusive result is when the examiner finds there is insufficient information to determine that a match exists. All three defense experts opined that these studies improperly counted inconclusive results. Faigman explained that the Ames I study, published in 2014, “calculated . . . inconclusives as correct answers. So, . . . [y]ou could answer every single test question in the black box study as inconclusive and get a hundred percent.” And the Keisler and Ames II studies, published after the PCAST Report, simply did not count inconclusive results. He opined that inconclusive results should be counted as incorrect because these studies are “like a true/false exam. If the answers are true or false and you answer inconclusive, that’s wrong, because the answer is either true or false.” He warned that this problem is exacerbated when examiners “don’t want to make a mistake [and] only answer the questions that [they]’re highly confident of, [but] there’s no penalty [for answering inconclusive].”

time.⁴ The experts also noted that these studies likely underestimated the error rate because examiners can be biased when they know they are being tested.

¶ 38 Importantly, the experts emphasized that while there have been studies and research conducted on the error rate for *firearm* toolmark analysis, no such research exists for hand-held tools. The experts explained the importance of distinguishing between firearm analysis (where unique characteristics within the chamber of a gun leave impressions on the bullet as it travels through the chamber) and hand-held toolmark analysis (where unique characteristics on the face of the tool leave impressions on the surface on which it was

⁴ Faigman opined that this statistic was

actually pretty shocking . . . because one of the arguments [in favor of the validity of toolmark science] is, well, each examiner is using his or her own standard to decide whether it is a match, an inconclusive, or not a match, but it indicates that even within individuals they are not using a consistent standard, and that is highly problematic, and in my view quite damning.

Interestingly, this statistic was contrasted with the prosecution's firearm and toolmark examiners, who testified that they had never made an incorrect match in their entire careers.

used). While firearm and hand-held toolmark analyses share similar methodologies (microscopically comparing impressions left in softer metal), the experts opined that the statistical probability of matching a bullet or cartridge casing to a gun was far greater than the statistical probability of matching a hand-held tool to a toolmark. One expert explained that while a bullet can only travel down a barrel one way, no matter how the gun is held or how hard the trigger is pulled, a tool can be held and used in countless different ways. Thus, even though the reports and studies aid in understanding the underlying methodology, hand-held toolmark analysis introduces far more variables into the matching process.

¶ 39 The evidence at the Rule 35(c) hearing also established that the examiners' protocols and methods were severely lacking according to the standards of modern science. The defense experts criticized the AFTE standards, which permit subjective matching, allowing for bias at several steps during the toolmark analysis

process.⁵ Examiners are not required under the AFTE standards to use objective measurements and recorded notes, instead examiners (including some of the examiners in this case) rely on their memories of matches (i.e. their training and experience). Even setting aside that this practice invites all types of bias and reduces reproducibility, there is no way for examiners to tell if their prior

⁵ For example, Dror, an expert in cognitive bias in forensic science, testified that bias can arise during the initial toolmark analysis when an examiner has been given a closed set (the sample and one or a few tools that they know will contain a match) or contextual information about the case, or when an examiner is using only eye sight comparison to perform the matching under the microscope. He also noted that there is bias in the verification process when the examiner knows that a match has already been made or, in some cases, that a conviction has been obtained.

matches were correct because there is no ground truth to measure accuracy.⁶

¶ 40 Specifically, regarding O’Neil’s testimony, the experts’ testimony established that O’Neil’s matches and supporting evidence would be easily undermined in a modern courtroom. O’Neil and the verifiers’ conclusions were based on the flawed

⁶ Faigman explained why this is troubling when considering the validity of firearm and toolmark science:

When you’re a firearms examiner, what feedback are you getting[?] You’re looking at something you don’t have ground truth on. Are you going to rely on confessions[?] Are you going to rely on guilty verdicts[?] What are you going to rely on to give you ground truth[?] So, there’s no feedback loop in forensic identification. So, experience doesn’t give it to you.

Training may, but . . . [a]re you looking at all those random marks by the hundreds of millions of tools[?] Just take a screwdriver as an example, to take it out of this case. How many screwdrivers are manufactured in the world and are in circulation today[?] Literally tens of millions, and examiner is saying that he or she can take one small set of marks and attach it to one screwdriver to the exclusion of all of the tens of millions of screwdrivers in the world. That’s quite a remarkable statement when you actually hear it.

methodology and analytical processes described above. All three defense experts testified that O'Neil's analysis was particularly questionable because of the small sample size for the single verified match, which invites more bias and opportunities for a mismatch.⁷ O'Neil also used photographs to illustrate his matches, which even the prosecution's experts admitted is now considered misleading to a jury. Even though his analysis can be reexamined using the original samples, O'Neil did not take notes or measurements, nor

⁷ To explain this concept, Dror used the following example:

When you see two full faces, you can be biased by the expectation that they're family. Now, imagine you're not comparing two full faces. One of the faces you see only the bottom half. Imagine only a quarter, only a square inch of the cheek. The smaller it gets, then it can fit many more faces. If it's a full face, it's more constrained. So, this is exactly what is going on here. The more you have smaller parts of a face to compare, then you can find not similar, identical part of the cheek, or small part of the nose, and sur[e]ly millions or hundreds of thousands of people who fit if you're looking at one-tenth of an inch of a face that will look totally identical. Even if you look only at [t]he nose, you find many, many people who have basically an identical nose, very, very similar, but when you look at the eyes and the lips, they're totally different.

did he write a report for the matches, which means that verifiers did not know what points he considered to be similar.

¶ 41 We recognize that recently courts in other jurisdictions have also analyzed the question of whether *firearm* toolmark analysis is admissible as expert testimony. *See, e.g., Abruquah v. State*, 296 A.3d 961, 985-87 (Md. 2023) (discussing evolving case law since the NRC and NAS Reports were published); *United States v. Harris*, 502 F. Supp. 3d 28, 36-43 (D.D.C. 2020); *United States v. Brown*, 973 F.3d 667, 703-04 (7th Cir. 2020); *Williams v. United States*, 210 A.3d 734, 738-43 (D.C. 2019). In considering this question, some courts have acknowledged that the NAS, NRC, and PCAST Reports may raise questions about the scientific reliability of firearm analysis but have concluded that such expert testimony is admissible, relying, at least in part, on the fact that courts have admitted this testimony for decades. *See, e.g., United States v. Taylor*, 663 F. Supp. 2d 1170, 1175 (D.N.M. 2009); *Brown*, 973 F.3d at 704 (noting that the AFTE methodology used by the government’s witnesses had been “almost uniformly accepted by federal courts”).

¶ 42 However, some courts have noted that although the testimony is largely admissible, both when the match was made and the purported certainty of the opinion are important, case-specific factors that affect admissibility. *See, e.g., Welsh v. Commonwealth*, ___ S.E.2d ___, 2025 WL 864762 (Va. Mar. 20, 2025) (concluding that the exclusion of defendant’s expert witness testimony to rebut the prosecution’s firearms analysis was reversible error); *Harris*, 502 F. Supp. 3d at 33 (recognizing that “recent advancements in the field in the four years since the PCAST Report address many of [the defendant’s] concerns”); *Williams*, 210 A.3d at 741-42 (finding that the admission of a firearm expert’s unqualified opinion that a bullet came from a specific gun was plain error); *Abruquah*, 296 A.3d at 997 (finding it was an abuse of discretion to admit unqualified opinion that a specific bullet came from a specific gun); *Taylor*, 663 F. Supp. 2d at 1179-80 (same). At the end of the day, “[o]pinions from other jurisdictions concluding that firearms identification testimony is admissible bear little weight here because of the differences between toolmark identification analysis for firearms and hand tools.” *Genrich II*, ¶¶ 125-126 (Berger, J., specially concurring).

¶ 43 Based on the evidence presented at the hearing, the postconviction court found that O’Neil’s testimony would be “effectively neutralized” because, in addition to excluding O’Neil’s confidence in the matches, the rest of his testimony would be severely undermined by the new evidence. The court concluded that the new evidence renders the scientific methods underlying O’Neil’s matches faulty. It explained that the greater scientific community has endorsed the opinion that those methods are imbued with bias and entirely subjective such that they do not adhere to the standards of, and are lacking in procedural safeguards required by, modern science. Genrich likewise persuaded the postconviction court that the verification process is just as flawed, even with concurrent testimony from the prosecution’s witnesses about its validity. Although he did not call a toolmark expert to directly contradict O’Neil’s testimony, Genrich called experts to attack the entire scientific method of toolmark analysis and undermine its value in the courtroom.

¶ 44 As for its importance, the above newly discovered evidence severely undermined a key element of the prosecution’s case — the identity of the bomber. *See Carmon v. State*, Nos. NNH CV19-

5052879 & NNHCV20-6107902, 2022 WL 17423683, at *21 (Conn. Super. Ct. Nov. 30, 2022) (unpublished opinion) (finding the defendant was entitled to a new trial because “[e]ach of [the fundamental] pillars” upon which the case rested was “splintered by the persuasive force” of the NAS, NRC, and PCAST Reports); *cf.* *State v. Stone*, 869 S.W.2d 785, 789 (Mo. Ct. App. 1994) (impeaching evidence that an eyewitness gave a false identification was material for the purpose of granting the defendant a new trial). The postconviction court found that without O’Neil’s testimony the prosecution’s case was “almost entirely circumstantial,” critically lacking evidence connecting Genrich to any of the four bombings.⁸ *See Behn*, 868 A.2d at 345 (newly discovered evidence can change the jury’s verdict where circumstantial evidence is strong but “far from overwhelming” (quoting *State v. Ways*, 850 A.2d 440, 453 (N.J. 2004))).

¶ 45 The postconviction court conducted a thorough review of both O’Neil’s cross-examination and the testimony of defense witnesses offered to counter his testimony, indicating that it considered the

⁸ As discussed below, we conclude that this determination is also supported by the evidence presented at the original trial.

value of this testimony in relation to the newly discovered evidence. It is also significant that at the original trial, the prosecution emphasized that Searls (whose testimony questioned the methodology and validity of toolmark analysis) was a statistician, not a toolmark examiner, was unfamiliar with the process of toolmark analysis, and had little support from the scientific community for his views, which undermined his testimony and made him seem less credible. *See id.* (considering the prosecution's emphasis on the excluded evidence at the original trial).

Meanwhile, the prosecution bolstered O'Neil's qualifications and emphasized on multiple occasions that "[t]here are 700 people who make their livings at doing [toolmark analysis] . . . [but] you have heard no one come and sit in that stand and say John O'Neil is wrong because John O'Neil is right."

¶ 46 Therefore, in addition to concluding that the scientific basis for O'Neil's testimony on hand-held toolmark analysis was no longer supported by mainstream science, the postconviction court also determined that O'Neil's crucial testimony was "effectively neutralized" such that another trial would probably result in an

acquittal. Because this conclusion is supported by the evidence, we will not disturb it.

C. The Fourth Prong

¶ 47 Still, even with O’Neil’s testimony effectively neutralized, the People argue that the postconviction court erred by concluding that an acquittal was probable based on the other evidence presented at Genrich’s original trial. They argue that there was overwhelming evidence of guilt such that we can be sure the jury would not have acquitted Genrich. Accordingly, the People say, the fourth prong of the new evidence test was also not satisfied.

¶ 48 To the extent the People assert that we should review this prong under a de novo standard of review, we disagree. The fourth prong is a factual determination, in which the postconviction court is charged with assessing the credibility of the new evidence (including new witnesses) and weighing that against the evidence presented at the original trial. *People v. Rodriguez*, 914 P.2d 230, 292-93 (Colo. 1996). Although the postconviction judge did not preside over the original trial more than thirty years ago, the postconviction court is still in a better position than we are to assess the credibility and reliability of the new witnesses and

evidence presented at the postconviction hearing. *See People v. Schneider*, 25 P.3d 755, 762-63 (Colo. 2001) (discussing credibility determinations with regard to recanting witnesses); *People v. Pitts*, 13 P.3d 1218, 1221 (Colo. 2000) (discussing a postconviction court's responsibility to weigh evidence and determine witness credibility on remand). For this reason, although we review the court's legal conclusions de novo, we defer to its assessment of the weight and credibility of the new evidence against the old. *See Schneider*, 25 P.3d at 762-63; *Pitts*, 13 P.3d at 1221.

¶ 49 The People also argue that the postconviction court erred in two reversible ways in granting a new trial. First, they claim that the postconviction court improperly relied on the *Genrich II* division's summation of the facts from the original trial. However, we do not read the postconviction court's quote of the *Genrich II* opinion as an abdication of its role to examine the record. Instead, we presume the postconviction court conducted a thorough review of the trial record, as we have, to determine whether the trial court's findings were supported.

¶ 50 Second, the People allege that the postconviction court erred when it mentioned the length of the jury's deliberations at the

original trial as an indication that acquittal was likely. Although we agree that the length of the jury deliberations at the original trial is not a measure of the remaining case's strength, we do not presume from the postconviction court's mere mention of the length of jury deliberations that it used that information in some improper manner.

¶ 51 As discussed above, the toolmark evidence supported the identity element of the crimes for which Genrich was accused. At the 1993 trial, the prosecution argued that this evidence conclusively tied Genrich to each of the bombs because, even if the jury believed only the single verified match, the bombs were all made by the same person. Accordingly, the prosecution argued that the same bombmaker — Genrich — created all four bombs.

¶ 52 However, with the toolmark evidence neutralized, the prosecution's identity argument is not convincing. In their opening brief, the People list the "extensive evidence" connecting Genrich to the bombings. Although each piece of evidence might increase the likelihood that Genrich was the bomber, there is no piece of evidence that directly or definitively ties Genrich to the bombs. The People list the following evidence:

- Notes written by Genrich and found in his boarding house room describe his “anger towards others and his plans to kill in retaliation.” The People argue that one of the notes “reference[s]” the February 14 bombing at Two Rivers Plaza,⁹ and another is connected to the March bombing at the Gonzales house, even though it was written twenty-one days later. They also argue that two of the notes, written thirty-nine days and five days before the event, are connected to the June bombing at the Feed Lot restaurant.
- Genrich told an employee of City Market (a business right across the street from Two Rivers Plaza) that another City Market employee caused him to be fired from Two Rivers Plaza and “if he didn’t get some respect soon, his words were, I’m going to kick someone’s ass or kill somebody.”
- Genrich vocalized his “frustration and anger” to surveillance agents who were investigating him throughout the summer of 1991.

⁹ The content of the note mentions that “Valentine’s day is coming” and says “If I end up killing some stuck up bitch don’t blame me.”

- Genrich had a motive to kill because he was romantically interested in a friend's former girlfriend, and she got engaged to another person in March 1991 (after the Two Rivers Plaza bombing in February but before the Gonzales house bombing in March).
- Genrich had the training and tools to make the bombs. The People point to Genrich's training in electronics at DeVry University; the two tool boxes filled with electrical tools including various wires, wire cutters, pliers, strippers, solder, circuit boards, and two Buss fuses; notebooks with circuitry designs; and Genrich's familiarity with William Powell's *The Anarchist's Cookbook* (1971), which contained designs for a bomb similar to the 1989 undetonated bomb.
- Genrich lived within walking distance of Surplus City, a store where all of the bomb components could have been purchased. An eyewitness also saw Genrich browsing the pipe aisle at the store between the first and second 1991 bombings. And Surplus City was the only store in the region that carried one of the bomb components.

- Genrich's boarding house was within walking distance of all three 1991 bomb sites and witnesses had seen him at businesses in the vicinity around the time of the bombings.
- The bombs were unique, did not have a safety mechanism, were made by the same person, and were likely hand-carried to the bomb sites.

¶ 53 But none of this evidence makes the crucial connection between Genrich and the bombs. Even the most damning direct evidence, that Genrich was seen near the bombsite three to four hours before the Two Rivers Plaza bomb exploded, is easily undermined by the witness's own testimony that he frequently saw Genrich in the area looking around, which was how he recognized Genrich.¹⁰ Combined with the fact that Genrich walked everywhere, any sighting of Genrich on his normal walking route is not a strong connection to the bombing.

¶ 54 In addition, the defense put on ample evidence that calls into question much of the circumstantial evidence presented by the

¹⁰ This evidence is also undermined by Genrich's parents' testimony that he was with them on the night of the bombing.

prosecution.¹¹ First, the defense attacked the prosecution’s motive theory — that Genrich placed the bombs to target women. Genrich presented evidence that the bombs were more likely placed to target specific people, rather than to kill women indiscriminately.

Moreover, the prosecution’s secondary motive theory — that he decided to make and place the bombs because his romantic interest became engaged — was contradicted by her own testimony, in which she admitted that she didn’t disclose her engagement to Genrich until the fall of 1991, after the bombings. Finally, the prosecution’s witnesses implied that Genrich might target Two Rivers Plaza because he was fired from working there prior to the bombings. But Genrich voluntarily told his surveillance detail that he would never bomb Two Rivers Plaza because he “had friends there.”

¹¹ Contrary to the People’s argument, we disagree that the use of the phrase “circumstantial evidence” implies that the postconviction court treated this evidence differently than direct evidence. The postconviction court used the term accurately, as we do, to describe evidence “based on observations of related facts that may lead . . . to . . . a conclusion about the fact in question” rather than direct proof of the facts. COLJI-Crim. D:01 (2024).

¶ 55 Next, although Genrich could have had the knowledge and did have some of the tools to create the bombs, this evidence is also less than convincing on its own. The tools found in Genrich's boarding house room were required for his program at DeVry University and were fairly common to have for anyone with a basic knowledge of electronics. In addition, the defense presented evidence that the prosecution was overstating Genrich's knowledge of bomb-making. More important though, authorities did not find any other bomb-making materials in Genrich's boarding house room.

¶ 56 Though the prosecution attempted to tie Genrich to the bomb locations, even these theories were undermined by defense evidence. The prosecution established that Genrich could walk to all four bomb locations and Surplus City. But three of the locations and Surplus City were in downtown Grand Junction, easily accessed by any member of the public. And the fourth location, the Gonzales house, was nearly two miles from Genrich's boarding house, which, based on the testimony of the prosecution's own expert, would be a very long way to carry an extremely triggerable bomb.

¶ 57 Finally, Genrich put on affirmative evidence that he had alibis for all four bombing events and that there were other suspects more likely to have committed these crimes. For the 1989 bomb, Genrich offered a purchase receipt and handwritten logs showing that he was at work, at a bookstore in Phoenix, Arizona, for the entire week prior to when the bomb was placed. For the 1991 bombs, his parents testified that Genrich was at their house when each of the bombs would have been placed. In addition, he offered evidence that investigations into suspects in the area were prematurely dismissed. Several of these other suspects either possessed or had been known to possess explosive devices, including pipe bombs.

¶ 58 Based on our review of the evidence, there was support in the record for the postconviction court to conclude that, without the toolmark analysis testimony, it was probable for the jury to acquit Genrich of the crimes for which he was accused, and we agree with that conclusion.

III. Due Process Violation

¶ 59 Because we are affirming the grant of a new trial on the basis of newly discovered evidence, we need not address whether or not

Genrich would also be entitled to relief based on a due process violation.

IV. Disposition

¶ 60 The order is affirmed.

JUDGE YUN and JUDGE KUHN concur.