

SUPREME JUDICIAL COURT OF MAINE

State of Maine v. Kailie Brackett

Brackett, 2026 ME 9 (Supreme Judicial Court of Maine 2026) · No. Was-24-231 · Decided February 5, 2026

SUMMARY

Kailie Brackett appealed her murder conviction, challenging the sufficiency of the evidence, admission of expert testimony, and prosecutorial conduct. The Maine Supreme Judicial Court vacated the conviction and remanded for a new trial, holding that the trial court erred in admitting testimony under Maine Rule of Evidence 702 concerning the identification of a partial, sock-clad footprint, and that the error was magnified by the State's closing and rebuttal arguments.

CASE DETAILS

COURT	Supreme Judicial Court of Maine
WRITING FOR THE COURT	Connors, J.; Stanfill, C.J.; Mead, J.; Lawrence, J.; Douglas, J.; Lipez, J.
JURISDICTION	Maine Supreme Judicial Court
DECIDED	February 5, 2026
DOCKET	Was-24-231
DISPOSITION	reversed_and_remanded
PROCEDURAL POSTURE	Defendant appealed her murder conviction and sentence following a jury trial. The sentence appeal was granted by the Sentence Review Panel and automatically merged with the direct appeal.
STANDARD OF REVIEW	The court reviews a trial court's foundational finding that expert testimony is sufficiently reliable for clear error and its ultimate admissibility decision for abuse of discretion. Sufficiency of the evidence is reviewed by viewing the evidence in the light most favorable to the prosecution and determining whether any rational fact-finder could find every element beyond a reasonable doubt. Preserved evidentiary objections are reviewed under the applicable expert-admissibility standard; prosecutorial error is disregarded only if it does not affect substantial rights.
PRECEDENTIAL VALUE	Published and precedential opinion of the Supreme Judicial Court of Maine.
PARTIES	Kailie Brackett v. State of Maine

TOPICS

expert testimony

evidence

criminal procedure

harmless error

appellate procedure

PRACTICE AREAS

Criminal law

Evidence

Appellate procedure

QUESTIONS PRESENTED

1. Whether the evidence, excluding the challenged footprint-comparison testimony, was sufficient to sustain Brackett's murder conviction.
2. Whether the trial court erred under Maine Rule of Evidence 702 by admitting forensic podiatry testimony comparing partial, bloody, sock-clad footprints.
3. Whether the prosecutor's characterization of the footprint testimony as showing that Brackett's footprints were found at the scene compounded the evidentiary error and required a new trial.
4. Whether the court needed to address Brackett's sentencing and other appellate arguments after vacating the conviction.

HOLDINGS

1. The evidence, viewed in the light most favorable to the State and excluding the footprint-comparison evidence, was sufficient to sustain Brackett's murder conviction.
2. Under Maine Rule of Evidence 702, the proponent of expert testimony must establish that the testimony is useful to the jury, that the expert is qualified, and that the testimony rests on a threshold level of reliable scientific methodology. The trial court erred in admitting the podiatrist's testimony because the State failed to establish a reliable methodology and the opinion was not articulated in a clear, useful, and replicable manner.
3. The admission of unreliable and unclear footprint testimony, combined with the prosecutor's mischaracterization of that testimony as establishing that Brackett's footprints were found at the scene, affected substantial rights and required vacatur of the conviction and a new trial.
4. A retrial is permitted because the evidence, excluding the improperly admitted footprint testimony, was sufficient to support the conviction, and double jeopardy therefore does not bar a new trial.

KEY QUOTATIONS

"A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if such testimony will help the trier of fact to understand the evidence or to determine a fact in issue." (§ 62)

"Trial courts must act as gatekeepers to ensure that expert evidence is reliable, useful, and understandable to the jury." (§ 87)

"The State must then take care not to overstate the conclusions of any expert evidence that is admitted." (§ 87)

FACTUAL BACKGROUND

Kimberly Neptune was found dead in her apartment after suffering 484 sharp-force injuries. Evidence connecting Brackett to the crime included her close relationship with Neptune, statements concerning money Neptune allegedly owed, withdrawals and purchases made with Neptune's bank card, surveillance evidence, and knowledge of where Neptune kept Xanax. The State also presented a podiatrist's comparison of partial, bloody, sock-clad footprints from the crime scene with prints taken from Brackett while incarcerated, but the expert used no recognized or replicable methodology and characterized the evidence as only "moderate."

PROCEDURAL HISTORY

Brackett was indicted for intentional, knowing, or depraved-indifference murder and tried before a jury. The jury found her guilty, while it deadlocked on co-defendant Donnell Dana Jr. The trial court sentenced Brackett to fifty-five years in prison and ordered \$952.50 in restitution. The Supreme Judicial Court vacated the judgment and remanded for a new trial because the trial court improperly admitted forensic podiatry testimony and the prosecutor materially overstated that testimony in closing and rebuttal.

DISPOSITION

reversed_and_remanded

REMAND INSTRUCTIONS

The judgment is vacated and the matter is remanded for further proceedings consistent with the opinion, including a new trial. Nirenberg's footprint-comparison testimony must be excluded at retrial.

CASES CITED

- State v. Fyans, 2025 ME 78, ¶ 9, 345 A.3d 18
- State v. Edwards, 2024 ME 55, ¶ 17, 320 A.3d 387
- State v. Mazerolle, 614 A.2d 68, 74 (Me. 1992)
- State v. Shirey, 2020 ME 136, n.4, 242 A.3d 1103
- Searles v. Fleetwood Homes of Pa., Inc., 2005 ME 94, ¶¶ 22-23, 878 A.2d 509
- State v. Williams, 2020 ME 128, ¶¶ 25-26, 241 A.3d 835
- State v. Bickart, 2009 ME 7, ¶¶ 14-15, 963 A.2d 183
- State v. Irving, 2003 ME 31, ¶ 12, 818 A.2d 204
- State v. Rourke, 2017 ME 10, ¶¶ 11, 13, 154 A.3d 127
- United States v. Lewis, 442 F. Supp. 3d 1122, 1145 (D. Minn. 2020)
- State v. Fleming, 1997 ME 158, ¶¶ 11, 16, 698 A.2d 503
- State v. Tellier, 526 A.2d 941, 944 (Me. 1987)
- State v. Farley, 2024 ME 52, ¶ 32, 319 A.3d 1080
- State v. Mooney, 2012 ME 69, ¶ 16, 43 A.3d 972
- State v. Mangos, 2008 ME 150, ¶ 15, 957 A.2d 89

- State v. Smith, 456 A.2d 16, 19 (Me. 1983)
- United States v. Frazier, 387 F.3d 1244, 1263 (11th Cir. 2004)
- United States v. Arenal, 768 F.2d 263, 270 (8th Cir. 1985)
- State v. Boutilier, 426 A.2d 876, 879 (Me. 1981)
- Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 588, 597 (1993)
- McCrory v. Alabama, 144 S. Ct. 2483, 2484 (2024)
- Commonwealth v. Rintala, 174 N.E.3d 249, 264 (Mass. 2021)
- State v. Dahood, 814 A.2d 159, 161-62 (N.H. 2002)

OPINION

CONNORS, J.

MAINE SUPREME JUDICIAL COURT Reporter of Decisions Decision: 2026 ME 9 Docket: Was-24-231 Argued: September 10, 2025 Decided: February 5, 2026 Panel: STANFILL, C.J., and MEAD, CONNORS, LAWRENCE, DOUGLAS, and LIPEZ, JJ. STATE OF MAINE v. KAILIE BRACKETT CONNORS, J. [¶1] Kailie Brackett appeals her conviction for murder, 17-A M.R.S. § 201(A)-(B)(2025), entered by the trial court (Washington County, R. Murray J.) following a jury trial.

Brackett raises multiple challenges to her conviction and sentence, including the sufficiency of the evidence against her; the admission of expert evidence over her objections; and prosecutorial error. We vacate her conviction and remand for a new trial because the trial court erred in admitting testimony under Maine Rule of Evidence 702 regarding the identity of a partial, sock-clad footprint found at the scene, which error was magnified by the State’s characterization of that testimony in its closing and rebuttal argument.

2 I. BACKGROUND [¶2] On the evening of April 21, 2022, the victim, Kimberly (Kim) Neptune, was found in her apartment by her brother, Samuel Neptune, Jr. Kim1 had been stabbed 484 times, causing her death. Approximately a month later, the State indicted Kailie Brackett and Donnell Dana, Jr., with intentional, knowing, or depraved indifference murder under 17-A M.R.S. § 201(1) (A)-(B).

A. The Evidence Admitted at Trial Other than the Footprint Evidence [¶3] The case went to trial between December 8 and 20, 2023, during which the State presented twenty-one witnesses including Kim’s brother; various local and State law enforcement officers; an investigator from the Office of the State Fire Marshal; Dr. Michael Nirenberg, a podiatrist; the deputy chief medical examiner for the State; Kim’s downstairs neighbor, Melissa Martin; a resident in Brackett’s neighborhood; a forensic chemist from the State Police crime laboratory; a forensic DNA analyst from the State Police crime laboratory; and Hailie Levesque, Kim’s cousin.

Brackett presented Alicia McCarthy, PhD, who testified in response to Nirenberg's evidence. Brackett also testified in her own defense. 1 For clarity, we will refer to the victim (Kim) and her brother (Samuel) by their first names. 3 [¶4] Excluding the footprint identification evidence from Nirenberg and McCarthy discussed in detail *infra* ¶¶ 25-55, the following sets forth the evidence admitted at trial, viewed in the light most favorable to the State.

See *State v. Fyans*, 2025 ME 78, ¶ 9, 345 A. 3d 18 (“When the sufficiency of the evidence is challenged, ‘[w]e view [the] evidence in the light most favorable to the prosecution and determine whether any trier of fact rationally could find beyond a reasonable doubt every element of the offense charged.’”) (citation omitted). [¶5] Kim lived in an apartment in Pleasant Point, Maine, above Melissa Martin.

Kim and her brother, Samuel, lived near one another and visited each other's homes frequently. Kim and Brackett were close friends who also lived near one another, and their homes were connected by an ATV trail. They saw each other most days in the months leading up to the crime. Brackett and her co-defendant, Donnell Dana Jr., share a child but they were not believed to be romantically involved at the time of the crime.

At trial, Brackett indicated that she and Dana coparented and got along well. Samuel was a childhood friend of Dana's and is the godfather of Brackett and Dana's child. [¶6] Kim and her neighbor, Martin, had surveillance cameras in their homes. Kim's camera was located inside her home, at her bedroom window, 4 facing her stairs, ATV, and the front of her apartment; Martin's was located outside her home, above her back door, on the side of the building where the entrance to Kim's apartment was located.

Martin's camera was motion activated, and the recordings from both Kim's and Martin's cameras could be accessed through phone applications. [¶7] Brackett and Kim both illegally used Xanax, which Kim also sold, including to Brackett.² Brackett knew where, within Kim's bedroom, Kim kept her Xanax, and Brackett knew that shortly before Kim's murder, Kim had bought 200 Xanax pills. [¶8] A few days before Kim was found deceased, Brackett's neighbor saw Brackett getting into her own car wearing a jacket, although the weather was warm, and a mask with a “joker smile.”³ Video footage shows Brackett later that evening, wearing the same mask and jacket, approaching Kim's neighbor's porch, then turning around. [¶9] On April 20, 2022, Kim's cousin, Hailie Levesque, saw Brackett at the Farmer's Union in Perry.

Levesque testified that, while checking out, she overheard Brackett say something about how Kim had stolen money and how ² Brackett testified that when she and Kim communicated about drugs, they utilized a “secret conversation” feature of Facebook messenger in which messages disappear after a short time. ³ At trial, Brackett admitted to owning a “Cheshire Cat smile mask.” ⁵ Kim was going to pay for it.

Levesque testified that a store worker was close enough to hear the statement. The worker, however, told law enforcement that “[s]he had not heard anything unusual said about [Kim] prior to or since the homicide.” [¶10] Brackett testified that she and Kim were at the Farmer’s Union together the same day, buying scratch tickets and groceries, after which they traveled to Eastport.

Cell tower data associated with Brackett’s and Kim’s cellphones reflect that on that day, between about 4:15 p.m. and 5:00 p.m., Brackett’s cellphone connected to cell sites in Perry and Eastport. According to a sergeant with the Maine State Police Computer Crimes Unit, “[t]he time of the connections, location of the cell sites, orientation of the antenna, and estimated distance from cell site measurements indicated that the device traveled from the Perry/Pleasant Point area to Eastport, and then back to the Perry/Pleasant Point area.” On the same date, between approximately 4:15 p.m. and 5:00 p.m., Kim’s cellphone connected to cell sites in Dennysville, Lubec, Perry, and Eastport. “The time of the connections, location of the cell sites, orientation of the antenna, and estimated distance from cell site measurements indicated that the device traveled from the Eastport area back to the Perry/Pleasant Point area.” 6 [¶11] Later in the evening of April 20, Kim visited Samuel at his home, shortly after 8:00 p.m., for 15-20 minutes, then left.

Brackett testified that Kim messaged her to see if she wanted to hang out and that Kim came to her home, arriving at approximately 9:00 p.m. and staying until approximately 11:00 p.m. [¶12] At approximately 11:00 p.m., Kim’s neighbor, Martin, received a notification from her surveillance camera while she was at work, and she heard her dogs “barking, going crazy, [and] whining” inside her apartment.⁴ At 12:17 a.m., Martin’s camera recorded a shadow on the pavement of one or two people who appeared to be coming down Kim’s stairs (which set off a motion-sensor light on Martin’s deck), then returning up the stairs to Kim’s apartment.

At 12:19 a.m., Kim’s Echo Show device recorded Kim asking “what’s the weather outside?” At approximately 1:00 a.m., the barking stopped. [¶13] A series of four charges on Brackett’s bank account were recorded starting before 1:00 a.m. on April 21. At least some of those transactions appeared to be automatic withdrawals. Brackett also received text messages from an online cosmetics store between 2:35 a.m. and 2:55 a.m., offering her 10% off a future purchase.

Brackett received an email at 2:59 a.m. reflecting an order from the cosmetics company. ⁴ At trial, Martin testified that her camera system would pick up noise both outside and inside her house if the noise was close to the door. ⁷ [¶14] At 8:07 a.m., Martin’s camera recorded an individual wearing a dark jacket leaving the area of Kim’s apartment. [¶15] Between 10:00 and 11:00 a.m., Samuel sent Kim a message and received no response.

He then went to her apartment to drop off batteries for her smoke detectors and discovered that both the doorknob and the deadbolt were locked. He did not enter the apartment because he was there in a work capacity as the assistant supervisor for the Pleasant Point housing authority. [¶16] Starting shortly before noon, Brackett made three transactions with Kim’s debit card.

She withdrew \$500 of Kim's money from an ATM at First National Bank in Eastport at 11:55 a.m. and \$203.50 (\$200 plus a transaction fee) from the Bangor Savings Bank ATM in Eastport at around 12:02 p.m., and made purchases totaling just over \$100 at the Family Dollar Store in Eastport at approximately 1:30 p.m. At the Family Dollar Store, she wore a jacket dissimilar to the jacket seen on the person leaving Kim's apartment that morning. [¶17] Later that evening, Samuel still had not heard from his sister and went to her apartment to check on her.

He noticed that the deadbolt and the doorknob were still locked and let himself into the apartment with a key that he had. Looking into her bedroom, he saw that it was in disarray and found his 8 sister wrapped in a blanket on the floor between her bed and dresser.

After peeling back the blanket to determine whether she had a pulse and detecting none, he returned to his house to call 9-1-1 because he did not have his cellphone with him. He saw a police car driving by his house and flagged it down.

The officer, who worked for the Pleasant Point Police Department, radioed to dispatch for EMS to go to Kim's apartment, and the officer and Samuel went to Kim's apartment. Once at the scene, the officer notified dispatch to have Chief Newell come to the scene. When Newell arrived, he instructed the officer to radio for more officers and to contact the State Police Major Crimes Unit.

Later that night, Samuel received a text message from Brackett asking, "Why didn't her camera's catch anything though?!" [¶18] Detectives from the Major Crimes Unit and the Evidence Response Team photographed and processed the crime scene. A variety of evidence was collected from Kim's apartment, including DNA samples from blood stains on a doorknob and deadbolt of the interior door, on several stairs leading up to the apartment's main floor, and inside Kim's bedroom.

Kim was later determined to be the major contributor of the blood found in all these samples, but there were some other minor contributors, including the codefendant Dana and other unknown males. Brackett's DNA was not present in any of the samples. 9 Samples of DNA from under Kim's fingernails matched at least six different male DNA profiles; there was no match to Brackett.

No fingerprints suitable for comparison were found at the crime scene. [¶19] The Evidence Response Team documented a series of bloodstained footprints in Kim's bedroom, only some of which Nirenberg deemed sufficient for comparison.

The team also photographed additional bloodstained footprints on the carpeted stairs leading up to the main floor of Kim's apartment. All of these were impressions of feet, not of footwear.⁵ [¶20] In addition to the photos of the bloody footprints, the crime scene photographs show that pillows on Kim's bed had substantial amounts of her blood, and one pillow had a pattern of blood indicating that a knife blade had been wiped on it.

Hands, covered in Kim's blood, had reached down between Kim's mattress and the wall. Bloody hands seemed to have turned the pockets of clothing lying on Kim's bed inside out. [¶21] Kim's security camera was missing. Her bank cards were also missing from the apartment. [¶22] On or around April 25, Brackett and Dana were seen loading what appeared to be three or four trash bags into Brackett's car.

Brackett testified 5 Footwear impressions found in Kim's home were at the foot of her bed and are believed to have been made by first responders. 10 that she was loading bags for a trip to Bangor, where their son was having surgery, and she was packing clothes and snacks for the trip. Brackett and Dana drove to Brewer with their son and stayed in a motel before their son underwent surgery on his elbow the next morning.

The motel's security camera footage did not show them carrying the bags and did not show their son being with them. [¶23] On April 27, someone attempted to access the account associated with Kim's security camera. On April 29, 2022, Brackett's home and car were searched pursuant to a warrant. Officers found several cards, a couple of checks, a receipt for a Family Dollar purchase, and \$1,004.53 in cash.⁶ In Brackett's home, officers photographed a jacket that appeared similar to the one on the individual that Martin's camera had recorded leaving the area of Kim's apartment at 8:07 a.m. on the day of the murder, but the jacket was not seized during the investigation. [¶24] The Deputy Chief Medical Examiner conducted Kim's autopsy on April 22, 2022, and counted 484 sharp force injuries, mostly to Kim's back, head, and neck, as well as others on her hands that were likely defensive Brackett testified that she frequently withdrew cash as a favor for Kim, who did not have a car.

⁶ Brackett also testified that on April 21, 2022, Kim needed \$1,000 in cash for a drug deal that she was making that day, and she was doing Kim a favor by making the ATM withdrawals. 11 wounds. The Examiner concluded that Kim had died within the previous twenty-four hours and identified the cause of death as "exsanguination due to sharp force injuries"—in other words, she bled to death.

B. The Forensic Podiatry Evidence [¶25] Prior to trial, the State filed a motion in limine to admit the testimony of Nirenberg, a podiatrist, regarding his comparison of partial, sock-clad bloody footprints found at the scene of the crime and prints taken of the defendants' sock-clad feet while incarcerated.

In opposition to the motion, Brackett presented McCarthy's report and testimony. The court granted the State's motion and ruled that the testimony of both Nirenberg and McCarthy would be permitted at trial. Because Brackett's objection to the admissibility of Nirenberg's testimony continued and was preserved throughout the trial,⁷ we summarize the relevant evidence as to the admissibility of his testimony as presented both at the evidentiary hearing on the motion and at trial.

1. Forensic Podiatry as a Science [¶26] Nirenberg cited a definition of forensic podiatry as “the application of sound and researched podiatry knowledge and experience in forensic 7 At the close of Nirenberg’s direct testimony at trial, counsel for Brackett renewed her objection to the admission of Nirenberg’s testimony in whole, which objection the court overruled, acknowledging the objection as preserved.

12 investigations, to show the association of an individual with a scene of crime, or to answer any other legal question concerned with the foot or footwear that requires knowledge of the functioning foot.” McCarthy defined forensic podiatry as “the comparison of the shape of bare feet or socked feet.” This case involves the latter, so our use of the term reflects that definition. a. Organizational Recognition [¶27] Nirenberg and McCarthy agreed that two important national or international organizations relating to forensic science are the Organization of Scientific Area Committees (OSAC) and the International Association for Identification (IAI).

McCarthy testified that neither organization recognized forensic podiatry as an accepted discipline. [¶28] As to OSAC, Nirenberg’s testimony when scrutinized indicates that he is personally an “affiliate,” not a full member, of OSAC; he serves as chair of an OSAC “exploratory task group” for gait analysis (not footprint comparison); and he is unaware whether OSAC has accepted the field of forensic podiatry but was in hopes that it would do so.⁸ [¶29] As to the IAI, Nirenberg contested that the organization had not accepted the field of forensic podiatry, citing his participation on an IAI forensic McCarthy stated that when she spoke to Nirenberg in 2019, he stated that he had applied for 8 forensic podiatry to be accepted by OSAC and that it had not been accepted.

13 podiatry subcommittee. McCarthy, who serves on the board of the IAI, explained that forensic podiatry was not an accepted discipline on the IAI’s website—the site lists the disciplines it governs, and forensic podiatry is not one of them. When asked by the State why the IAI had a subcommittee on forensic podiatry, she stated that the IAI had a general forensics track with forensic podiatry “underneath” it, relating to which Nirenberg sometimes presents. [¶30] A third organization that Nirenberg identified as respected was the European Network of Forensic Science Institutes.⁹ Nirenberg indicated that he was unaware that the European Network lists working groups on its website, that forensic podiatry is not listed on that website, and that the website does not list guides regarding forensic podiatry, but he stated that he was “not surprised.” Nirenberg testified that “[w]e haven’t reached out to every organization.

Forensic podiatry is a small group. There’s not a lot of cases involving footprints.” ⁹ McCarthy described the European Network as the European equivalent of OSAC. 14 b. Studies (1) Black-Box Studies [¶31] A black-box study measures the accuracy of forensic examiners’ conclusions without considering how they reached those conclusions and identifies a percentage error rate for comparison in the field.

It establishes that the results from one examiner can be replicated by another and is particularly useful for measuring the reliability of judgment-based measurements. See Kori Khan & Alicia L. Carriquiry, *Shining a Light on Forensic Black-Box Studies*, 10 Stat. & Pub. Pol’y 1 (2023). [¶32] McCarthy indicated that black-box studies are the gold standard for establishing the reliability of a field of forensic science.

McCarthy testified that since a 2009 report issued by the National Academy of Sciences (NAS) had suggested that expert opinions were being submitted to courts without sufficient testing of the reliability of the science behind them, black-box studies had been undertaken in a number of areas, such as fingerprint comparison. See National Research Council of the National Academies, *Strengthening Forensic Science in the United States: A Path Forward* 87 (Washington, DC: National Academies Press, 2009) (2009 NAS Report).

She testified that she was not aware of any black-box studies that had been performed on footprint comparison, and she could not find any such study when she conducted a search. [¶33] Nirenberg did not contradict McCarthy’s testimony on any of these points.

(2) Other Studies [¶34] Citing two different studies, Nirenberg stated that the odds of different people having the same footprint were 1 in 1.27 billion or 1 in 100,000. The studies he cited as providing these statistics, however, focused on barefoot prints, not sock-clad prints.¹⁰ McCarthy described a study that she had found by Nirenberg relating to sock-clad prints as identifying a “statistically significant difference” between the measurements of a bare foot and the same foot wearing a sock.

Nirenberg did not contradict her description of this study but testified that studies indicated that a variation of up to five millimeters between the sizes of comparison samples was insignificant and that “the barefoot translates to the sock-clad.”¹¹ ¹⁰ Bare feet have dermal ridges, similar to fingerprints. ¹¹ For this proposition, at trial, Nirenberg alluded to “Kennedy, Vernon and Bodziak.” He did not identify in that testimony which studies he was referencing.

In his report, Nirenberg cited various publications that included the names of these three authors for various propositions, but not the proposition that bare feet “translates” to sock-clad. The bibliography to his report includes various materials by these authors, mostly dated before 2009 and having titles alluding to bare feet. ¹⁶ c. The Reel Methodology [¶35] McCarthy testified that in 2012, a doctoral candidate named Sarah Reel highlighted that examiners were using inconsistent methods in footprint comparison (examiners were comparing footprints “all over the place” with no standard), and that Reel had shown how to take measurements in a consistent, geometrically structured way for comparison purposes in which feet were measured using the same set of linear and angle measurements.

McCarthy said that Nirenberg had told her that the Reel technique was the gold standard for footprint comparison. [¶36] When asked whether, before the Reel technique was developed, there were concerns about the scientific rigor of footprint measurements, Nirenberg at first said, “I never had that concern. Maybe some people did.” In his report, Nirenberg cited a 1984 article co-authored by Owen Lovejoy as “establishing correspondence between bare and sock-clad footprints.” Nirenberg also cited this 1984 article as looking at partial, sock-clad footprints and finding “distinctiveness” based on thirteen characteristics.

See Casimer J. Smerecki & C. Owen Lovejoy, *Identification via Pedal Morphology*, *The Police Chief*, April 1984, at 52. In this article from 1984, the authors described how inked prints were taken of two suspects in a crime to compare to bloody prints found at the crime scene, and one suspect was excluded as the source of those prints because “the morphology of her foot was completely distinct.” *Id.* at 53.

As to the other suspect, the article asserted that the impressions “corresponded closely.” *Id.* The article then described how five partial, sock-clad prints were taken from 100 different people and the examiners correctly identified which person within the 100 people had made each of the five prints. *Id.* at 54. From this exercise, the authors concluded that “[f]ootprints made through stockings or socks can leave anatomical morphology that can be examined to yield a high degree of identification,” albeit not to the same degree as fingerprint comparison.

Id. The article also opined that the “degree of non-exclusion” that can be obtained depends on factors like “the coarseness and density of the sock material” and the characteristics of the printing medium, noting that “any solvent flow or creep” would “reduce clarity.” *Id.* at 54. 17 When confronted with a paper he had written regarding the Reel methodology, Nirenberg then agreed that the Reel methodology was “considered the best method to measure a footprint,” and agreed with what he had written—that “[t]he variety of approaches to footprint measurement suggests... the need for an approach with sufficient scientific rigor, which led Reel to lead the development of a two-dimensional linear measurement method, i.e. the Reel method.” [¶37] Nirenberg did not use the Reel methodology in this case.

12 2. Nirenberg’s Approach [¶38] Nirenberg indicated that he used four right-foot, sock-clad prints from the crime scene for his analysis. He could not apply the Reel methodology to compare the samples of Brackett’s footprints taken in prison to the prints at the crime scene because the prints at the crime scene were partial, missing the impression of a heel. [¶39] Although it is clear that Nirenberg did not use the Reel methodology, it is not clear from the record what methodology he did use.¹³ He 12 McCarthy noted that the research upon which Nirenberg relied to support the approach he utilized in this case was published prior to the establishment of the Reel method.

13 When asked whether Nirenberg’s methodology would have been deemed acceptable when she was working at the Maine State Crime Lab (where she was employed for ten years), McCarthy

answered no, but added that it did not seem that Nirenberg had a methodology. 18 did not cite any recognized methodology by name. Instead, he testified that he had identified sixty features, which he then compared between the crime scene prints and the prints taken in prison.

These features were shapes that he “visualiz[ed]” within the prints to compare.¹⁴ It does not appear that these sixty features came from any standard guide.¹⁵ When asked whether there was any objective score or value to allow someone else to predictably come up with the same result, his answer was no. [¶40] After choosing the features to compare, Nirenberg then decided, based on his visualization, that fifty of his sixty features were “similar” between the crime scene prints and the sample prints for Brackett. “Similar” meant “resembling but not identical.” Again, this determination of similarity was not based on any standard but instead on Nirenberg’s knowledge and experience, and he conceded that, because this was a subjective opinion, two different examiners could reach different conclusions.

¹⁴During the prosecutor’s cross-examination of McCarthy, McCarthy noted that the Reel methodology involved linear measurements and angles, while Nirenberg looked at “patterns of the toes, shapes,” concluding that fifty out of sixty of the “characteristics,” in the prosecutor’s phraseology, that Nirenberg “looked at” were “similar to” Brackett’s. McCarthy testified that she looked at the foot impression in Nirenberg’s report and his chart of features/characteristics and “couldn’t make head nor tail out of it.” McCarthy also noted on redirect that the sixty features/characteristics, such as Nirenberg’s view of roundness or pointedness of a toe print, were not measured; that is, they could not “be expressed in numbers.” ¹⁵ Nirenberg appears to decide which features and how many to compare on a case-by-case basis.

19 a. Factors Affecting the Accuracy of Nirenberg’s Comparison [¶41] Aside from her testimony as summarized above, McCarthy identified a list of problems in making a comparison in this instance that in her view rendered Nirenberg’s comparison and report unreliable. [¶42] As one example, she noted that the sock worn at the scene was unknown, so a comparison of the sock-clad prints present at the crime scene likely differed from the prints of Brackett’s feet in the socks provided by the prison.¹⁶ [¶43] Another problem McCarthy noted was that crime scene prints sprayed with Leuco Crystal Violet (LCV) are supposed to be photographed ¹⁶ Nirenberg had not asked the State what the thickness of the sock had been for the prison samples, stating that “it may be inconsequential.” McCarthy, aside from citing the unknown differential in the thickness of the socks at the scene versus the socks used for the prison samples, noted a study that she indicated reflected that socks of different thicknesses absorb different amounts of blood, and the more blood that a sock absorbs, the wider the impression on the floor.

Although it was known that the sock-clad prints at the scene were bloody, it was unknown how bloody. The prints were also made on different surfaces—the crime scene on linoleum, the prison samples on inked paper. Bodziak, an author that Nirenberg cited multiple times in his report and

testimony, stated in an article, “If sock impressions are obtained, comparability questions may arise, such as whether the socks used for the standards are of the same type, thickness, and stretch as those worn at the crime scene.

These concerns include the condition of the socks, such as wear and moisture, and whether the socks were worn right side in or inside out.” William J. Bodziak, *Footwear Impression Evidence: Detection, Recovery and Examination* 398 (CRC Press 2d ed. 1999.) 20 immediately, or at least within an hour, while it appeared to her that the photographs that Nirenberg used were taken two days later.

17 [¶44] A difference in the weight of the person between the time the two prints are made (the time differential here was almost a year) can also affect the size of the prints.¹⁸ [¶45] Nirenberg recognized that most of the problems that McCarthy listed were “valid” and noted that he had highlighted some of them in his own report. He stated, however, that they did not matter because they would not disturb his five-millimeter measure within which variations are not deemed material.¹⁹ Nirenberg did not analyze how each of the identified problems could or would impact the prints and size differentials.

17 McCarthy, who indicated that she had taken and taught courses on the proper use and application of LCV, explained that LCV bleeds into the background over time, which results in wider foot size distortions. The record does not indicate that Nirenberg asked how much time had elapsed between the time the crime prints were sprayed and the time the photographs were taken.

He stated that he was not an expert in LCV and said, “[T]his is out of my wheelhouse. If there [was] a problem, then – then it’s somebody else’s problem.” ¹⁸ Nirenberg did not know or ask what Brackett weighed at the time of the crime or the time that she made the print samples and stated that he did not know how much this would affect a width measurement. ¹⁹ Although Nirenberg referenced his five-millimeter room for variation as relating specifically to a linear measurement of the foot, he later said that variation such as that attributable to the thickness of the sock was “inconsequential” because “you’re working within a five-millimeter margin of anything.” He testified that, whether dealing with a bare foot or a sock-clad foot, “[t]he science uses plus or minus five millimeters” and his five-millimeter allowance for variation considers “all the things that can happen when a footprint is made.” Elsewhere in his testimony, Nirenberg stated: “There – there is no margin of error.

It is – it is what it is. That’s the number you get based on knowledge and experience and training, and that’s why, if we’re going to compare it to a sock-clad ²¹ [¶46] Regarding sock widths, Nirenberg stated that the average difference in width of a sock-clad footprint compared to a bare footprint was “very tiny,” “approximately 2.5 millimeters.”²⁰ He conceded, however, that whatever the thickness of the sock, it might or might not result in more than a five-millimeter variation, seemingly contradicting his assertion that variations would all fall within five

millimeters. [¶47] McCarthy testified that Nirenberg's approach made no sense from a scientific standpoint.

She stated that uncertainty measurements are never a static number; for example, it is never one number, five millimeters, for a baby's little, narrow feet and the same five millimeters for a large man with very wide feet. [¶48] Nirenberg did not explain why a five-millimeter differential is static and would always apply no matter the number of factors impacting variations in the prints analyzed. foot, there's a five millimeter error margin difference taking into account all these different fact limitations." 20 When questioned on cross-examination regarding this 2.5 millimeter number, which apparently came from Nirenberg's sock comparison study, Nirenberg admitted that the "high end" of the discrepancy between barefoot and socked footprints "could have been" five millimeters or more than five millimeters.

He added that he was "not sure" that "sock width equates to increased width" in the print. 22 b. Nirenberg's Opinion [¶49] To express his conclusions, Nirenberg used a scale that he said he derived from the European Network: [¶50] Nirenberg did not say that the European Network applied this scale to foot comparisons.²¹ Rather, he decided to use this scale given his "knowledge of the human foot," "the limitations of the case," "the circumstances" and "putting all that together." [¶51] Applying this scale, Nirenberg said the evidence was "moderately strong" that the prints at the scene were not those of Dana and the evidence was "moderate" that the prints at the scene were those of Brackett.

As noted supra ¶ 30, the European Network does not list forensic podiatry as a discipline for 21 which it issues any guidelines. 23 [¶52] When asked to identify what the terms "moderately strong" and "moderate" meant in terms of his level of certainty that the prints matched, Nirenberg indicated that this scale did not express levels of certainty. Rather, these terms expressed degrees of strength of the evidence as those degrees related to each other—each step up the scale was ten times stronger than the step below.

Fixing the comparison here for Brackett as "moderate" was not based on numerical data or statistical calculation, and where he placed the comparison on this scale was a reflection of his knowledge, experience, and training. [¶53] McCarthy stated that scientists needed to articulate the reason why they were identifying something as "moderately strong" or "moderate"—to explain why and how they arrived at their conclusion, so that the reasoning is transparent and can be replicated by another examiner.

Fundamentally, the problem in Nirenberg's approach was the lack of a methodology such that an examiner could explain why he or she arrived at his or her assessment. McCarthy illustrated this with an analogy: assume there is a black cat; one person might describe the cat as "very" dark, while another might think the cat was "moderately dark." 24 [¶54] Outside the scale in which "moderate" was an assessment only relative to other terms on the scale, when pressed, Nirenberg

opined that despite the various identified problems or limitations, Brackett “could still have made that footprint.” 3.

The Prosecutor’s Description of the Forensic Podiatry Evidence in Closing and Rebuttal Argument [¶55] Brackett did not object during the prosecutor’s closing and rebuttal arguments. In closing argument, the prosecutor contrasted Nirenberg’s conclusion that there was a “moderate” level of evidence to support the proposition that Brackett made the crime scene footprints with the fact that Nirenberg had “ruled out” Dana as the creator of the footprint.

The prosecutor also stated that although a receipt did not indicate where Brackett had been located, “her footprints do.” In rebuttal, the prosecutor stated that although the defense’s closing quibbled regarding the footprint evidence, Brackett’s attorney had not said “a word about the fact that 50 out of 60 characteristics match Kailie Brackett. What percentage of the population do you think would do that, 50 out of 60?” The prosecutor stated: “What we know is that her footprints were found at the scene.” 25 C. The Verdict, Sentence, Judgment, and Appeal [¶56] The jury deliberated for three days.

During this time, the jury issued multiple notes, to which the court responded after consultation with counsel. Ultimately, the jury found Brackett guilty but deadlocked as to Dana’s guilt. [¶57] Brackett was sentenced to fifty-five years in prison and ordered to pay \$952.50 as restitution, with judgment entered on May 10, 2024. Her application for leave to appeal her sentence followed her timely notice of appeal.

The Sentence Review Panel granted leave, and the appeals were automatically merged. See M.R. App. P. 20(g), (h). II. DISCUSSION [¶58] Brackett asserts various errors relating to both her conviction and her sentence.

We focus on her arguments that the evidence was not sufficient to convict her; that the court should have excluded Nirenberg’s testimony; and that the prosecutor’s argument constituted error.²² 22 As for the remainder of Brackett’s arguments on appeal, given that we are vacating the judgment and remanding for a new trial, we need not address her argument regarding sentencing.

Nor need we discuss whether the prosecutor’s characterization of the evidence in his closing relating to the location of cellphones was accurate. Finally, with respect to Brackett’s argument that the court abused its discretion in admitting six photographs of the victim’s injuries, we disagree that the photographs were unduly prejudicial. See *State v. Lockhart*, 2003 ME 108, ¶ 46, 830 A.2d 433.

26 A. The evidence was sufficient to sustain Brackett’s conviction, even excluding Nirenberg’s testimony. [¶59] Setting aside the footprint comparison evidence, the evidence at trial, while not overwhelming, was sufficient to sustain Brackett’s conviction. [¶60] This evidence included, without limitation, testimony that Brackett was overheard saying that Kim had stolen money and

“was going to pay for it”; Brackett’s withdrawal of \$703.50 from Kim’s bank accounts; surveillance video that could have been viewed as reflecting suspicious conduct on Brackett’s part; and bloody handprints on the wall indicating that someone had reached where Brackett knew Kim usually kept her pills.

Brackett testified, so the jury was able to assess her credibility and was free to disbelieve her explanations as to her whereabouts at the relevant times, why she used Kim’s bank card, and that she had not in fact made the statement that Kim was “going to pay.” See *State v. Edwards*, 2024 ME 55, ¶ 17, 320 A.3d 387 (“[This Court] defer[s] to all credibility determinations and reasonable inferences drawn by the fact-finder, even if those inferences are contradicted by parts of the direct evidence.”) (quotation marks omitted); *State v. Mazerolle*, 614 A.2d 68, 74 (Me.

1992) (“Any conflicts in the evidence are to be resolved in favor of the State.”) [¶61] Hence, upon remand, the State is free to retry Brackett with Nirenberg’s footprint comparison testimony being excluded. See *State v. Shirey*, 27 2020 ME 136, n.4, 242 A.3d 1103 (noting that double jeopardy does not attach to preclude retrial unless the evidence was insufficient to support the conviction).

B. The admission of Nirenberg’s testimony without a proper foundation or articulation of an opinion useful to the jury, coupled with the prosecutor’s characterization of Nirenberg’s testimony as establishing that the partial footprint was in fact that of Brackett, requires a new trial. 1.

The proponent of expert testimony must show, among other things, that the science is reliable, the expert is qualified, and the testimony will be helpful to the jury. [¶62] Maine Rule of Evidence 104(a) provides in relevant part that before admitting evidence, the court must “decide any preliminary questions about whether a witness is qualified.” Maine Rule of Evidence 702 provides that “[a] witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if such testimony will help the trier of fact to understand the evidence or to determine a fact in issue.” [¶63] Thus, touchstones for the admissibility of expert testimony are that the testimony will be useful to the jury and that the expert is qualified to give that useful testimony.

See Richard H. Field & Peter L. Murray, *Maine Evidence*, 376 (6th ed. 2007) (“The first test is... [whether] the proffered opinion address[es] an issue of consequence in the case in a way that is helpful to the jury in making its determination[.]”) [¶64] Beyond the issue of whether a proffered witness possesses adequate credentials to offer the testimony, the court must appraise whether “a reliable expert technique has been developed,” i.e., whether “there is sufficient scientific basis” for the proposed expert testimony.

Id. This inquiry is the first step in assessing reliability: the court must make a preliminary finding that the testimony meets a threshold level of reliability before then determining whether the proponent of the testimony has met its burden of showing the testimony is relevant and will assist

the trier of fact. See *Searles v. Fleetwood Homes of Pa., Inc.*, 2005 ME 94, ¶ 22, 878 A.2d 509; *State v. Williams*, 2020 ME 128, ¶ 26, 241 A.3d 835. [¶65] On the reliability front, when the “expert testimony rests on newly ascertained, or applied, scientific principles, a trial court may consider whether the scientific matters involved in the proffered testimony have been generally accepted or conform to a generally accepted explanatory theory in determining whether the threshold level of reliability has been met.” *State v. Bickart*, 2009 ME 7, ¶ 14, 963 A.2d 183 (quotation marks omitted).

In *Searles*, we outlined six 29 factors that trial courts may consider in making this preliminary reliability determination: (1) whether any studies tendered in support of the testimony are based on facts similar to those at issue; (2) whether the hypothesis of the testimony has been subject to peer review; (3) whether an expert’s conclusion has been tailored to the facts of the case; (4) whether any other experts attest to the reliability of the testimony; (5) the nature of the expert’s qualifications; and (6), if a causal relationship is asserted, whether there is a scientific basis for determining that such a relationship exists.

Searles, 2005 ME 94, ¶ 23, 878 A.2d 509, cited in *Bickart*, 2007 ME 7, ¶ 15, 963 A.2d 183.23 [¶66] We review the court’s “foundational finding that expert testimony is sufficiently reliable for clear error and its ultimate decision on the 23 In *State v. Williams*, 388 A.2d 500, 503-04 (Me. 1978), we stated that “there is no justifiable distinction in principle” arising when “expert testimony may happen to involve newly ascertained or newly applied scientific principles.” As noted above, we have since indicated that in determining whether the threshold level of reliability has been met, a trial court “may” consider whether “newly ascertained” science has been generally accepted in the field or conforms to a generally accepted explanatory theory.

State v. Bickart, 2009 ME 7, ¶ 14, 963 A.2d 183. In *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 588, 597 (1993), the Supreme Court eschewed “general acceptance” in the field as “an absolute prerequisite to admissibility,” but emphasized that the trial court acts as the gatekeeper for expert testimony to “ensur[e] that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” Because we conclude that Nirenberg’s testimony fails our existing test, we need not address Brackett’s argument that we should adopt the test applied in the federal courts under *Daubert*.

That said, we note that our test requires the trial court to engage in a similarly rigorous gatekeeping function. See *State v. Boutilier*, 426 A.2d 876, 879 (Me. 1981) (vacating conviction; “When determining the admissibility of proffered expert opinion testimony in terms of its relevance and helpfulness to the jury, the presiding justice should evaluate whether what is claimed as ‘scientific’ is really so, and in this regard one important (if not controlling) consideration is whether the matters involved have been generally accepted or conform to a generally accepted scientific theory.”) See also *Searles v. Fleetwood Homes of Pa., Inc.*, 2005 ME

94, n.2, 878 A.2d 509 (noting that in *Williams*, 388 A.2d 500, we did not eliminate “general acceptance” “as an element to be considered when determining whether scientific evidence is admissible”).

30 admissibility of expert opinion testimony for an abuse of discretion.” *Williams*, 2020 ME 128, ¶ 25, 241 A.3d 835 (quotation marks omitted). Although the court’s discretion is broad, the proponent of the evidence must establish that the testimony “will assist the trier of fact” and that testimony meets “a threshold level of reliability.” *Tolliver v. Dep’t of Transp.*, 2008 ME 83, ¶ 29, 948 A.2d 1223 (citation omitted). “If an expert’s methodology or science is unreliable, then the expert’s opinion has no probative value.” 24 *State v. Irving*, 2003 ME 31, ¶ 12, 818 A.2d 204.

24 After analyzing in depth what the proper standard of review should be on appeal regarding the reliability of proffered expert testimony, the New Jersey Supreme Court has adopted a “hybrid” standard of review, also applied in multiple other jurisdictions, in which reliability determinations are reviewed *de novo* because, *inter alia*, “[t]he permissible methodologies of experts who are allowed to present their opinions in criminal and quasi-criminal prosecutions should not vary from case to case or from trial judge to trial judge.” *State v. Olenowski*, 304 A.3d 598, 629 (N.J.

2023) (noting that several other states, including New Hampshire, apply an independent review), citing, *inter alia*, *State v. Dahood*, 814 A.2d 159, 161-62 (N.H. 2002) (“When the reliability or general acceptance of novel scientific evidence is not likely to vary according to the circumstances of a particular case,... we review that evidence independently.”) See generally *Daubert and Appellate Review*, 1 Mod.

Sci. Evidence § 1:34 (2024-2025 Ed.) (noting that the United States Supreme Court has ruled that the admissibility of expert testimony is reviewed under an abuse of discretion standard, but questioning that ruling and noting a “long-standing practice, especially among state supreme courts, which have had considerable historical experience in this realm, of treating decisions about the fundamental admissibility of scientific evidence as a matter of law—to be evaluated *de novo*”).

Our ruling in this appeal does not require us to re-assess our standard of review because, as described *infra*, whether forensic podiatry as a science could be deemed reliable in the abstract, Nirenberg’s approach and opinion in this matter fail the requirements for admissibility and do so under an abuse of discretion standard.

We note with approval, however, the statement of the Massachusetts Supreme Judicial Court in *Commonwealth v. Rintala*, 174 N.E.3d 249, 264 (Mass. 2021) that “[w]here new hard science is involved, an appellate court will always take a hard look at the trial judge’s decision to admit or exclude the evidence” (quotation marks omitted). 31 2. Nirenberg’s testimony fails this test. [¶67] Applying the principles described above, relevant areas of inquiry as to Nirenberg’s evidence before his testimony can be deemed admissible include (1) whether forensic podiatry footprint

comparison is a recognized field of science; (2) if so, whether the approach Nirenberg used for his comparison is recognized as reliable within the field under the conditions presented; and (3) if so, whether Nirenberg's opinion, applying that approach, would be useful to the jury.

The record reflects issues at each step of the inquiry. a. The current status of the field of forensic podiatry foot comparison is, at a minimum, debatable. [¶68] As a threshold matter, we note that the issue here is not forensic podiatry as a science in terms of the reliability of an expert's testimony regarding a person's gait or shoeprint, or even a comparison of bare feet to bare feet.

Rather, the issue is the reliability of the comparison of partial, bloody, sock-clad footprints found at a crime scene to sample sock-clad prints taken later of a foot clad in a different sock. [¶69] As McCarthy referenced in her report and testimony, in 2009, following a congressional charge, the NAS issued a report that stated that, with the exception of DNA analysis, no field of forensic science had been empirically shown to be consistent and reliable at connecting a piece of evidence to a particular source or individual.

This problem was particularly concerning for feature-based comparison methods such as latent fingerprint analysis, firearm and toolmark identification, and footwear impression examinations because these methods involve subjective, visual comparisons. 2009 NAS Report at 107-08, 149, 154; see *McCroy v. Alabama*, 144 S. Ct. 2483, 2484 (2024) (statement of Sotomayor, J., regarding denial of petition for writ of certiorari).²⁵ The 2009 NAS Report did not even mention forensic podiatry in its chapter analyzing different forensic disciplines. [¶70] Seven years later, in 2016, a report by the President's Council of Advisors on Science and Technology (PCAST) identified some methods of forensic evidence that had become foundationally valid and reliable for use in courts, such as fingerprint analysis, while others remained problematic.

President's Council of Advisors on Science and Technology, *Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods* (Sept. 2016) at 87, 101, 148 (PCAST Report); *McCroy*, 144 S. Ct. at 2484 (2024); ²⁵Justice Sotomayor described the "wholesale reevaluation of forensic evidence" that began in 2005, when Congress instructed the NAS to investigate; discussed the "groundbreaking" 2009 NAS Report "that strongly suggested many forms of forensic evidence that previously had been accepted by courts were, in fact, scientifically unsound"; and noted that the 2009 NAS Report had "singled out for critique" various disciplines and had stated that "courts failed meaningfully to test the reliability of such evidence." *McCroy*, 144 S.Ct. at 2484 (2024).

³³ see generally Jennifer Friedman & Jessica Brand, *It Is Now Up to the Courts: "Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods"*, 57 Santa Clara L. Rev. 367, 368 (2017). There was again no mention of forensic podiatry in the PCAST Report as a possible reliable field of science for court purposes. [¶71] Consistent with McCarthy's testimony and not contested by Nirenberg, the PCAST Report stated that empirical

testing through black-box studies is the scientific way to establish the validity of feature-based comparison methods.

See PCAST Report at 66. The PCAST Report also suggests “that neither experience, nor judgment, nor good professional practices (such as certification programs and accreditation programs, standardized protocols, proficiency testing, and codes of ethics) can substitute for actual evidence of foundational validity and reliability.” Id. at 6. [¶72] In the years that followed, the PCAST Report spurred a number of black-box studies in a variety of fields.

As noted by McCarthy and not contested by Nirenberg, no black-box study has been undertaken regarding the error rates or reliability of forensic podiatry comparisons. [¶73] The lack of black-box studies or even mention of forensic podiatry in the 2009 NAS Report and PCAST Report does not foreclose the possibility 34 that footprint comparison may be deemed reliable for admission at trial.

But it does suggest that more probing of the science is necessary. See PCAST Report at 122. (“PCAST expects that some forensic feature-comparison methods may be rejected by courts as inadmissible because they lack adequate evidence of scientific validity.”) [¶74] As reflected in this record, forensic podiatry is not recognized by two of the three forensic organizations identified by the experts as relevant, and the scope of the recognition by the third is debatable.

26 26The most recent article listed in the bibliography of Nirenberg’s report, Examination and Interpretation of Bare Footprints in Forensic Investigations, published in 2020 in a British journal, Research and Reports in Forensic Medical Science, was coauthored by Reel. Relevant aspects of the article include: The observation that the study arriving at the 1 in 1.27 billion figure for foot uniqueness has been questioned and the “statistical inference of the uniqueness of footprint morphology is disputed”; the article concludes that “[i]t is essential that more discriminatory studies with larger homogeneous samples are undertaken in order to further understand the subject of the uniqueness of the morphology of a person’s footprint.” The opinion that “whilst various footprint databases are known of anecdotally, these are not widely published and often held on an individual basis with no public access.

It is therefore often difficult in casework evaluations to rely on large database information to estimate the probability of footprints belonging to the same person.” Criticism of approaches used prior to the development of the Reel methodology, noting the weaknesses of those approaches and that Nirenberg recommended a “minimum of two different approaches” be used.

The statement that aside from a test by Reel and her compatriots, “little research” has been carried out to investigate outcomes of experienced and non-experienced examiners and “to establish standards in practice,” and there have been no studies testing the effects of cognitive bias.

The summary conclusions of the article are: “[c]learly, further research is needed to understand how the existing research supports footprint examiners in real-world practice” and “[t]he interpretation of footprint examination comparisons is in need of further empirical inquiry and due to limited databases, conclusions relating to the weight of evidence provided by a footprint examiner for the criminal justice system can only be opinion-based and not fact-based.” The article notes that 35 b. Even if the general field of forensic podiatry footprint comparison could be deemed sufficiently reliable, the approach applied by Nirenberg was not the methodology adopted within the field after 2012, few modern studies focus on sock-clad comparison, and Nirenberg’s approach in choosing what he compared and the results he deemed relevant were not based on any replicable standard. [¶75] If we were to conclude that forensic podiatry as a science is sufficiently reliable in general, the record indicates that the Reel methodology would be the methodology deemed reliable within this field since 2012.

The record also indicates that studies prior to 2009, 2012, and issuance of the PCAST Report in 2016, such as most of those relied on or published by Nirenberg, are of questionable value. Moreover, there is a clear dearth of studies that focus on sock-clad comparison. See *State v. Rourke*, 2017 ME 10, ¶¶ 11, 13, 154 A.3d 127 (affirming rejection of testimony; “[i]ndicia of reliability include whether any studies tendered in support of the testimony are based on facts similar to those at issue;... and whether an expert’s conclusion has been tailored to the facts of the case” and noting that studies tendered in support of the testimony were not based on facts similar to those present in the there is a “paramount” necessity for the development of a code of practice, as its relevance “is far reaching to organizations in the United States” such as IAI, OSAC, and other listed organizations of forensic science.

Vernon, Reel & Howsam, *Examination and Interpretation of Bare Footprints*, 10 *Rsch. and Reps. in Forensic Med. Sci.* (2020). 36 case) (alterations and quotation marks omitted)). In sum, the use of any methodology other than the Reel methodology requires further scrutiny, and the paucity of studies focusing on the comparison in this case poses concern. [¶76] Given that the Reel methodology was not and could not be used in this instance because the prints here were only partial, see *supra* ¶ 38, it was important to establish that the methodology used by Nirenberg was nevertheless reliable.

Here, when the record is scrutinized, it reflects an approach by Nirenberg in which he looks at the prints and, based purely on his knowledge and experience, but no generally recognized standard, he chooses shapes within the (here partial) footprints that he deems relevant to compare.

The number of shapes that he chooses to compare varies from case to case and is not based on a standard recognized in the field. See 2009 NAS Report at 149 (“Without such population studies, it is impossible to assess the number of characteristics that must match in order to have any particular degree of confidence about the source of the impression.”)27 27 In his report, Nirenberg

cited an “FBI study of 500 footprints” to support his conclusion that “only five or fewer of the most general characteristics were necessary to either identify or discriminate a footprint.” This assertion came from a study conducted in the 1980s.

See Bodziak, *supra* note 16. 37 [¶77] Nirenberg based his conclusion of similarity again on his personal visualizations, unsupported by any numerical data and not based on any standard in the field. [¶78] This approach does not appear to be a methodology in the common understanding of the word within forensic science. See *United States v. Lewis*, 442 F. Supp. 3d 1122, 1145 (D.

Minn. 2020) (citing the PCAST Report to note that “[i]n order to be foundationally valid a forensic science method must be shown, based on empirical study, to be repeatable, reproducible, and accurate”); *State v. Fleming*, 1997 ME 158, ¶¶ 11, 16, 698 A.2d 503 (explaining the proof supporting the general admissibility of DNA matching, noting, *inter alia*, that “the same results can be obtained by different examiners using the same methodology”). [¶79] The reliability of Nirenberg’s approach was further eroded by the multiple facts impacting the footprint comparison in this case that he acknowledged were valid.

See *supra* ¶¶ 41-46. It is counterintuitive that the impact of each factor did not need to be assessed individually and that the number of these factors would never cause a variation over five millimeters, assuming a five-millimeter variation is acceptable, and Nirenberg’s own 38 testimony at times suggested that these factors could result in more than a five-millimeter variation. *c.* Nirenberg did not articulate his conclusions in a way easily understood and useful to the jury. [¶80] We know that Nirenberg was not opining that the prints were identical.

His use of a five-millimeter variation as acceptable underscores that point, and he testified that when he said fifty of sixty features were “similar,” that meant “resembling but not identical.”²⁸ Beyond this, the accuracy of his conclusion and the nature of his conclusion were not presented in useful and understandable language. His ultimate conclusion was simply that Brackett’s footprint “could have” been that of the same person who left partial footprints found at the scene.

With respect to how Brackett might have fallen into the category of people who “could have” left the prints at the scene, although numbers like 1 in 1.27 billion were voiced, they were based on barefoot comparisons, not sock-clad comparisons, and he could say only that the evidence was “moderate” that the prints at the scene were those of Brackett. This meant that ten of the features that he identified were not similar.

He did not explain why²⁸ this did not prevent him from concluding that the footprints could be of the same person beyond stating that while some features were dissimilar, they did not reach the point of incompatibility.

In *Footwear Impression Evidence: Detection, Recovery and Examination*, a book cited in Nirenberg’s study, Bodziak states that identification “requires a clear correspondence of size and

shape features with no significant differences.” Bodziak, *supra* note 16, at 407. 39 without further identifying the portion of the population who would also leave prints that fit the “moderate” category. [¶81] Just as the significance of his conclusion as to the similarity of fifty of the sixty features he had chosen was not clear, Nirenberg was unable to describe his conclusion of a “moderate” level of evidence beyond describing the word in relative terms, e.g., ten times less than “moderately strong.” See *State v. Tellier*, 526 A.2d 941, 944 (Me.

1987) (affirming rejection of testimony because, *inter alia*, that “testimony was so abstract, vague and speculative that its relevance and probative value was virtually nil”). 3. The questionable reliability and unclear nature of Nirenberg’s testimony, combined with the mischaracterization of that testimony by the State, require a new trial. [¶82] Whatever could be gleaned from Nirenberg’s testimony, it is not that the sock-clad footprints definitively matched or were in fact Brackett’s.

But the prosecutor stated that Brackett’s footprints “matched,” and that “we know” that the footprints at the scene were Brackett’s. [¶83] Under Maine Rule of Criminal Procedure 52(a), the Court disregards on appeal an error that “does not affect substantial rights.” While a stray misrepresentation of the evidence in argument is not necessarily fatal, see, e.g., *State v. Farley*, 2024 ME 52, ¶ 32, 319 A.3d 1080, here, the combination of 40 the State’s mischaracterizations and the lack of reliability and usefulness of Nirenberg’s testimony cannot be disregarded because it is likely that this combination affected the jury’s verdict. [¶84] First, as noted *supra*, the evidence against Brackett, excluding Nirenberg’s testimony, while sufficient, was not overwhelming.

There were no eyewitnesses and no forensic evidence tying Brackett to the crime scene except the footprints. See *State v. Mooney*, 2012 ME 69, ¶ 16, 43 A.3d 972 (“Simply because the record contains sufficient evidence to establish the defendant’s guilt notwithstanding improperly admitted evidence does not compel a conclusion that it is highly probable that the improperly admitted evidence did not affect the judgment”). [¶85] Second, after deliberating for three days, the jury found Brackett guilty but could not reach unanimity as to Dana, and a primary difference between the two—aside from Dana’s DNA being found at the crime scene but not Brackett’s—was the “moderate” versus “moderately strong” conclusions as to the footprint identification rendered by Nirenberg, which the State expressly contrasted in its closing.

See *State v. Mangos*, 2008 ME 150, ¶ 15, 957 A.2d 89 (vacating judgment because the erroneously admitted evidence was not harmless because it scientifically linked the defendant to the clothing worn 41 during the crime); cf. *State v. Smith*, 456 A.2d 16, 19 (Me. 1983) (concluding that prosecutorial error was not harmless because, *inter alia*, the evidence was not overwhelming, the defendant was found guilty of an offense against one of the victims but not the other, and the prosecutor’s improper comments related more directly to the offense for which the defendant was found guilty). [¶86] Third, expert evidence “may be assigned talismanic significance in the eyes of lay jurors.” *United States v. Frazier*, 387 F.3d 1244, 1263 (11th Cir.

2004); see *United States v. Arenal*, 768 F.2d 263, 270 (8th Cir. 1985) (district court abused its discretion by admitting improper expert testimony, given the expert’s “aura of expertise”). When the prosecution compounds the error by bolstering that erroneously admitted testimony in the cloak of its own authority, vacatur is required. III. CONCLUSION ¶87 Trial courts must act as gatekeepers to ensure that expert evidence is reliable, useful, and understandable to the jury.

The need to scrutinize proffered testimony is particularly acute when a field has not yet gained 42 recognition within the forensic science community. The State must then take care not to overstate the conclusions of any expert evidence that is admitted.

The entry is: Judgment vacated. Remanded for further proceedings consistent with this opinion. Michelle R. King, Esq. (orally), Thistle Weaver & Morris, Portland, for appellant Kailie Brackett Aaron M. Frey, Attorney General, and Katie Sibley, Asst. Atty. Gen. (orally), Office of the Attorney General, Augusta, for appellee State of Maine Washington County Unified Criminal Docket docket number CR-2022-20121 FOR CLERK REFERENCE ONLY