

IN THE  
ARIZONA COURT OF APPEALS  
DIVISION TWO

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THE STATE OF ARIZONA,  
*Appellee,*

*v.*

JOSEPH JAVIER ROMERO,  
*Appellant.*

No. 2 CA-CR 2012-0378  
Filed December 31, 2014

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Appeal from the Superior Court in Pima County  
No. CR20103531001  
The Honorable Deborah Bernini, Judge

**AFFIRMED**

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COUNSEL

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*Counsel for Appellee*

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**OPINION**

Presiding Judge Miller authored the opinion of the Court, in which Judge Espinosa concurred and Chief Judge Eckerstrom specially concurred.

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M I L L E R, Presiding Judge:

¶1 Joseph Romero was convicted after a jury trial of second-degree murder and sentenced to a presumptive term of sixteen years. Romero argues the trial court erred when it denied his motion to dismiss the indictment due to pre-indictment delay, denied his motion to preclude testimony from the state's firearms expert, and granted the state's motion to preclude testimony from his proffered expert on firearms examination methodology. Romero also argues the trial court erred by entering a criminal restitution order at sentencing. For the reasons that follow, we vacate the criminal restitution order but otherwise affirm Romero's convictions and sentences.

**Factual and Procedural Background**

¶2 We view the facts in the light most favorable to sustaining the jury's verdict and resolve all reasonable inferences against Romero. *State v. Haight-Gyuro*, 218 Ariz. 356, ¶ 2, 186 P.3d 33, 34 (App. 2008). In June 2000, S.M. was killed by two gunshot wounds to his face and back. Among other items, a cellular telephone and six .40-caliber shell casings were discovered near S.M.'s body. Nearly one month later, when Romero was stopped by police officers in an unrelated matter, he possessed a .40-caliber Glock magazine. Officers also found a .40-caliber Glock handgun without its magazine along the path Romero had travelled just prior to his encounter with the police. This firearm later would be linked to the shell casings discovered near S.M.

¶3 Seven years after the homicide, a "cold case" unit examined information from the cell phone found next to S.M.'s body, which led investigators to Romero. Based on this connection,

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a firearms expert was asked to conduct a ballistics test of Romero's Glock handgun. The expert fired the handgun and concluded that the indentations it made on the back of each expelled shell casing matched those on the shell casings found near S.M.'s body.

¶4 Romero was charged by indictment with first-degree murder. After a jury trial, he was found guilty of the lesser-included offense of second-degree murder and sentenced to sixteen years' imprisonment.<sup>1</sup> This timely appeal followed.

**Pre-indictment Delay**

¶5 Romero argues the trial court erred by denying his motion to dismiss the charge due to pre-indictment delay based on the seven years that had elapsed between the date of S.M.'s death and when the state began investigating the case again. We review a court's ruling on a motion to dismiss for an abuse of discretion. *State v. Medina*, 190 Ariz. 418, 420, 949 P.2d 507, 509 (App. 1997).

¶6 "To establish that pre-indictment delay has denied a defendant due process, there must be a showing that the prosecution intentionally delayed proceedings to gain a tactical advantage over the defendant or to harass him, *and* that the defendant has actually been prejudiced by the delay." *State v. Broughton*, 156 Ariz. 394, 397, 752 P.2d 483, 486 (1988). Romero does not allege and the record contains no evidence that the state intentionally delayed indicting him to obtain a tactical advantage. Rather, Romero contends the state was negligent in waiting until 2007 to investigate the cellular telephone found next to S.M.'s body. But even assuming the state had been negligent in this regard, it does not demonstrate the delay had been intentional and designed to "gain a tactical advantage" over Romero or "to harass him." *Id.* Because Romero has not established this required element, he is not entitled to relief for pre-indictment delay under the test set forth in *Broughton*. *See id.*

¶7 Romero argues, however, that he is not required to demonstrate the state intentionally delayed the prosecution to gain a tactical advantage. He contends this requirement is the result of our

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<sup>1</sup>The jury in Romero's first trial could not reach a verdict.

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supreme court's misinterpretation of *United States v. Marion*, 404 U.S. 307 (1971), and *United States v. Lovasco*, 431 U.S. 783 (1977). Romero appears to ask that we instead apply a balancing test similar to that adopted by some federal circuit courts. See, e.g., *Howell v. Barker*, 904 F.2d 889, 894-95 (4th Cir. 1990); *United States v. Moran*, 759 F.2d 777, 782 (9th Cir. 1985). But we are "bound by decisions of the Arizona Supreme Court and ha[ve] no authority to overturn or refuse to follow its decisions." *State v. Long*, 207 Ariz. 140, ¶ 23, 83 P.3d 618, 623 (App. 2004). Accordingly, any changes to the test for determining whether a defendant is entitled to dismissal of charges because of pre-indictment delay "would be in the exclusive purview of [the supreme court]." *State v. McPherson*, 228 Ariz. 557, ¶ 16, 269 P.3d 1181, 1187 (App. 2012).

¶8 Moreover, under either test Romero was required to demonstrate that he actually was prejudiced by the delay, which he has failed to do. See *Howell*, 904 F.2d at 895; *Moran*, 759 F.2d at 782. "To make a showing of actual and substantial prejudice, 'it is not enough to show the mere passage of time nor to offer some suggestion of speculative harm; rather the defendant must present concrete evidence showing material harm.'" *State v. Dunlap*, 187 Ariz. 441, 450, 930 P.2d 518, 527 (App. 1996), quoting *United States v. Anagnostou*, 974 F.2d 939, 942 (7th Cir. 1992).

¶9 Romero argues his ability to mount a defense was prejudiced by the passage of time because potential witnesses had died, witnesses' memories had faded, and he was not on notice to preserve evidence showing his whereabouts at the time of the murder. Romero did not identify unavailable witnesses or possible testimony. Similarly, he has not specified what evidence he could have gathered with respect to ownership of the handgun attributed to him that was not already in the law enforcement record. Thus, Romero has not presented concrete evidence that he was actually and substantially prejudiced by the delay. See *Broughton*, 156 Ariz. at 397, 752 P.2d at 486. Based on the record before us, the trial court did not err by refusing Romero's request to dismiss the charge.

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**Rule 702**

¶10 Romero next raises two arguments related to the admissibility of expert testimony under Rule 702, Ariz. R. Evid. First, he contends the trial court erred by denying his motion to preclude the testimony of the state’s firearms examiner, Frank Powell, on the ground the examination was not the product of reliable principles and methods. Romero also asserts the court erred in precluding his experimental psychologist expert, Ralph Haber, from testifying at trial about scientific criticisms of all firearm identifications. We review a trial court’s decisions on the admissibility of expert testimony for an abuse of discretion. *State v. Davolt*, 207 Ariz. 191, ¶ 69, 84 P.3d 456, 475 (2004).

¶11 Effective January 1, 2012, Arizona adopted the language of Rule 702, Fed. R. Evid., which reflects the principles set forth in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993). See Ariz. R. Evid. 702 cmt. to 2012 amend.; *State v. Perez*, 233 Ariz. 38, ¶ 16, 308 P.3d 1189, 1193 (App. 2013). Under Rule 702, the trial court is to serve as a “gatekeeper[]” that admits testimony it initially finds reliable, permitting the jury to weigh what the court has already determined to be “reliable, expert testimony.” Ariz. R. Evid. 702 cmt to 2012 amend.; see also *Perez*, 233 Ariz. 38, ¶ 16, 308 P.3d at 1193. This “gatekeeper” function applies not only to scientific evidence, but “also to testimony based on ‘technical’ and ‘other specialized’ knowledge.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 141 (1999). Specifically, Rule 702, Ariz. R. Evid., provides:

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

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

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(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods; and

(d) the expert has reliably applied the principles and methods to the facts of the case.

*“Daubert offers additional ‘non-exclusive factors for determining whether scientific evidence is admissible,’ including empirical testing, peer review, error rate, the existence of standards and controls, and the degree to which the theory and technique is generally accepted by a relevant scientific community.” Sandretto v. Payson Healthcare Mgmt., Inc., 234 Ariz. 351, ¶ 12, 322 P.3d 168, 173 (App. 2014), quoting Ariz. State Hosp./Ariz. Cmty. Protection & Treatment Ctr. v. Klein, 231 Ariz. 467, ¶ 27, 296 P.3d 1003, 1009 (App. 2013); see also Daubert, 509 U.S. at 593-94.*

**Admission of Toolmark Analysis for Firearm Identification**

¶12 Romero moved to preclude Powell’s testimony, asserting the field of firearms identification lacked the reliability required by *Daubert* and Rule 702. Although he did not challenge Powell’s expert qualifications, he argued that the field is not a science because the theory of unique markings from individual firearms cannot be tested under the scientific method. He also attacked the field’s subjective methods, the structure and functioning of its research literature, and how examiner error rates are calculated. Additionally, Romero relied on Dr. Haber to convey these general arguments, as well as to expand upon criticisms from the National Academy of Science review of forensic sciences in

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2009.<sup>2</sup> The trial court conducted a Rule 702 evidentiary hearing, and reviewed Powell's testimony from the first trial in which he described his qualifications as well as the methodology he used to match spent casings to a specific firearm. The court found the firearms identification evidence "reliable and admissible under Arizona's newly adopted *Daubert* standard." On appeal, Romero raises the same arguments he did below.

¶13 Before Rule 702 changed in 2012, our supreme court determined that firearms identification testimony was admissible under the previous standard set forth in *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir. 1923). See *State v. Miller*, 234 Ariz. 31, ¶¶ 28-31, 316 P.3d 1219, 1229 (2013); *State v. Macumber*, 112 Ariz. 569, 570-71, 544 P.2d 1084, 1085-86 (1976). Although Arizona courts have yet to determine whether firearms identification is sufficiently reliable for admission under amended Rule 702, we look to federal decisions interpreting Federal Rule 702 for guidance. See *State v. Green*, 200 Ariz. 496, ¶ 10, 29 P.3d 271, 273 (2001) ("When interpreting an evidentiary rule that predominately echoes its federal counterpart, we often look to the latter for guidance."); Ariz. R. Evid. 702 cmt. to 2012 amend. ("The 2012 amendment of Rule 702 adopts Federal Rule of Evidence 702, as restyled.").

¶14 Several federal district courts have held that firearms identification testimony is sufficiently reliable under *Daubert* and Federal Rule 702. See, e.g., *United States v. Willock*, 696 F. Supp. 2d 536, 571-72 (D. Md. 2010); *United States v. Taylor*, 663 F. Supp. 2d

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<sup>2</sup>Romero and our specially concurring colleague also cite *Strengthening Forensic Science in the United States: A Path Forward* (2009), by the National Research Council of the National Academies (hereinafter "NAS Report"), to argue that the principle of unique markings on discharged ammunition has not been "scientifically demonstrated." The NAS Report made thirteen recommendations, none of which addressed admissibility. *Id.* at 19-33. Instead, the report observed that firearms identification is highly dependent on skill and training. *Id.* at 153. The NAS Report is not, standing alone, dispositive of either the admissibility of firearms identification testimony or sufficient to qualify Haber as an expert.

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1170, 1179-80 (D.N.M. 2009); *United States v. Monteiro*, 407 F. Supp. 2d 351, 354-55 (D. Mass. 2006). In *Monteiro*, after a six-day evidentiary hearing, the court held that “the underlying scientific principle behind firearm identification—that firearms transfer unique toolmarks to spent cartridge cases—is valid under *Daubert*.” 407 F. Supp. 2d at 355. Similarly, in *Willock*, the court determined that the standards governing toolmark examination are sufficient to permit a qualified expert’s testimony to assist jurors in determining whether bullets or cartridges have been fired from a particular firearm. 696 F. Supp. 2d at 571-72.

¶15 At the first trial, Powell testified about his background, training, and experience in firearms identification. He is a member of the Association of Firearm and Toolmark Examiners that publishes a quarterly journal. He also testified that he is required to complete an annual proficiency exam and that studies indicate an error rate around one percent for proficiency tests given to firearms examiners. Further, he indicated that the methodology he used to analyze the shell casings is accepted by his scientific community as valid, and that a second examiner was required to review his work and agree with his conclusion before it was reported.

¶16 We find the reasoning in *Monteiro* and *Willock* persuasive and likewise conclude that the methodology governing firearms identification is sufficiently reliable, under *Daubert* and Arizona Rule 702, to permit a qualified expert to provide in-court technical testimony.<sup>3</sup> See *Daubert*, 509 U.S. at 593-94. First, Romero failed to develop an argument that changes in firearms identification methods call into question Arizona case law admitting such testimony under *Frye*. Nor does he identify a reason Arizona’s adoption of the *Daubert* standard would justify a different result. See *Miller*, 234 Ariz. 31, ¶¶ 28-31, 316 P.3d at 1229; cf. *Favela*, 323 P.3d 716, ¶¶ 6, 9, 323 P.3d at 718, 719. Accordingly, the trial court did not

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<sup>3</sup>Our determination is consistent with other Arizona decisions in analogous fields of technical expertise. See, e.g., *State v. Favela*, 234 Ariz. 433, ¶¶ 6, 9, 323 P.3d 716, 718, 719 (App. 2014) (expert testimony on latent fingerprint and palm print evidence sufficiently reliable to satisfy Rule 702 and *Daubert*).



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abuse its discretion in denying Romero's motion to preclude Powell's testimony. *See Willock*, 696 F. Supp. 2d at 571-72; *Monteiro*, 407 F. Supp. 2d at 354-55; *cf. Favela*, 323 P.3d 716, ¶¶ 6, 9, 323 P.3d at 718, 719.

¶17 Romero further argues that even if the trial court properly allowed Powell to testify, the court erred by "failing to limit his testimony regarding the certainty of his conclusions." He appears to rely on *Monteiro* in support of this argument. 407 F. Supp. 2d at 355. Although the court in *Monteiro* held that the underlying scientific principle behind firearms identification is valid under *Daubert*, it determined that "the subjective nature of the matching analysis," meant "a firearms examiner must be qualified through training, experience, and/or proficiency testing to provide expert testimony." *Id.* The court further concluded that a firearms expert may give an opinion of a match "to a reasonable degree of certainty in the ballistics field," but may not testify that there is a match "to an exact statistical certainty." *Id.*

¶18 But *Monteiro* is distinguishable. Here, unlike the examiners in *Monteiro*, who testified essentially that they could be 100 percent sure of a match, Powell testified that there was a match to "a reasonable degree of scientific certainty." *See* 407 F. Supp. 2d at 372. Moreover, in *Ruiz-Troche v. Pepsi-Cola of Puerto Rico Bottling Company*, upon which the *Monteiro* court relied in support of its holding, the court of appeals approved allowing an accident reconstruction expert to testify to a reasonable degree of scientific certainty. *Ruiz-Troche v. Pepsi-Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 82 (1st Cir. 1998); *see also Monteiro*, 407 F. Supp. 2d at 372. Accordingly, the trial court did not err by permitting Powell to testify to a reasonable degree of scientific certainty.

### **Preclusion of Expert Testimony Criticizing Firearms Identification**

¶19 Romero next argues the trial court erred in precluding his psychology expert from testifying at trial about criticisms of firearms identification. The court found Haber not qualified to challenge or rebut the testimony, foundation, or opinions of Powell. The court also found that Romero sought to introduce Haber's testimony to conduct what amounted to a second *Daubert* hearing

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before the jury.<sup>4</sup> Accordingly, the court granted the state's motion to preclude Haber's proposed testimony.

¶20 Unlike most Rule 702 issues that courts have faced in the last two decades, the question of whether an expert is qualified to express a particular opinion is largely unaffected by *Daubert*, its progeny, or the changes to Rule 702. Almost a century ago it was black letter law that a person offering an expert opinion must have the requisite qualifications on the particular matter.<sup>5</sup> 1 Wigmore on Evidence § 560 (2d ed. 1923); *see also* *Gaston v. Hunter*, 121 Ariz. 33, 51, 588 P.2d 326, 344 (App. 1978), *citing* *Myers v. Cessna Aircraft Corp.*, 553 P.2d 355, 370 (Or. 1976). It also was recognized that expertise is specific, and experience in one area does not confer expertise in a related area. *Myers*, 553 P.2d at 370-71. Stated differently: no expert is competent to express an opinion on every subject. Wigmore, *supra*, § 555.

¶21 As the proponent of expert testimony, Romero had the burden of demonstrating Haber's qualifications on the particular issues. *Sandretto*, 234 Ariz. 351, ¶ 15, 322 P.3d at 174. The trial court has broad discretion in admitting or excluding expert testimony, and we will not reverse its ruling "unless there is a clear abuse of

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<sup>4</sup>We do not address this second reason in view of our decision affirming the trial court's finding that Romero did not show Haber qualified to testify about firearms identification.

<sup>5</sup>To the extent Romero or our colleague relies on authorities discussing the test described in Rule 702(a)—"specialized knowledge [that] will help the trier of fact"—to determine whether an expert is "qualified," they confound separate inquiries. While such blending might have been more common pre-*Daubert*, it was a mistake even at that time. *Compare* *State v. Seebold*, 111 Ariz. 423, 425, 531 P.2d 1130, 1132 (1975) (gun shop owner and penetration specialist were not qualified about ballistics despite detailed knowledge of guns and their use), *with* *Macumber*, 112 Ariz. at 570-71, 544 P.2d at 1085-86 (chemist employed by gun and ammunitions manufacturers, and who studied with firearms expert, should have been permitted to testify about marks on shell casings).

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discretion.” *Gemstar Ltd. v. Ernst & Young*, 185 Ariz. 493, 505, 917 P.2d 222, 234 (1996); *see also Salem v. U.S. Lines Co.*, 370 U.S. 31, 35 (1962) (trial judge has broad discretion in exclusion of expert testimony; ruling will be sustained unless manifestly erroneous). Moreover, the trial court determines “whether the expertise of the witness is applicable to the subject.” *Englehart v. Jeep Corp.*, 122 Ariz. 256, 258, 594 P.2d 510, 512 (1979).

¶22 Romero’s proof of Haber’s qualifications was limited to general background statements in advance of his testimony about firearms identification. Romero did not proffer a curriculum vitae, bibliography of published articles, or other record of Haber’s experiences and training. Haber’s graduate education and professional background are predominantly in the field of experimental psychology. His professional experience included psychology-related work in academia as well as consulting in the area of eyewitness testimony. He eventually branched out to fingerprint analysis after he underwent fingerprint examiner training. Haber’s firearms identification experience consisted solely of his reviewing the relevant literature and writing a “chapter in the California Bar Association’s publication on evidence in the criminal courts on firearms and handgun identification.” This was the first time he had been retained as a proposed expert in firearms identification. Haber admitted he had “no idea what an examiner does when he carries out an examination.”

¶23 Romero challenges the description of Haber as only a psychologist. He posits him as an expert in the scientific field of experimental design. Haber’s self-description was not so broad. For instance, he taught for six years “as an assistant professor in psychology and primarily in experimental psychology and statistics and experimental design.” At subsequent academic positions as an experimental psychologist, he also taught experimental design. He explained that he has been a peer and grant reviewer “on a variety of experimental topics where I review them, analyze them both in terms of the appropriate experimental designs, the way the experiment was carried out, the conclusions reached, the interpretations and the statistical methods that were used.” One such item involved handgun identification, but Haber provided no

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details about the grant application he reviewed. He also has done review work for several national academies and twenty different journals, although apparently none involving journals read by firearms and toolmark analysts.

¶24 Accepting for the purpose of addressing Romero’s argument that Haber has expertise in experimental design, we address whether that background qualifies him to testify as an expert in firearms identification, where he has “studied this literature for three or four years,” but has no practical experience. First, we note that experimental design is not a separate field of study, but generally describes various empirical models to study measurable phenomena. It is a critical component of the scientific method. Erica Beecher-Monas, *The Heuristics of Intellectual Due Process: A Primer for Triers of Science*, 75 N.Y.U. L. Rev. 1563, 1578 (2000) (“Science Primer”) (science consists of assumptions about the way the world works, coupled with canons of experimental design and theoretical exemplars to address problems and explanations). Experimental design is employed in virtually any area susceptible to statistical analysis, such as the social, biological, and physical sciences. See generally, David H. Kaye & David A. Freedman, *Reference Guide on Statistics*, in *Reference Manual on Scientific Evidence* 90-97 (2d ed. 2000). It is not a one-size-fits-all approach. The application of experimental design principles “differ[s] widely from field to field.” *Science Primer*, 75 N.Y.U. L. Rev. at 1629. A classic text on experimental design cautions that the researcher cannot casually transfer design principles across fields. D.R. Cox, *Planning of Experiments* at vi (1958) (“[T]he practical importance of different parts of [experimental design] varies greatly between different applied fields.”). The issue is whether Haber could apply his knowledge of experimental design to firearms identification.

¶25 Assuming that Haber described all of his relevant experience, training, and knowledge, the omissions in his ability to apply theoretical design knowledge to firearms identification are numerous. Before this case, Haber never conducted a toolmark analysis, never attempted to identify different firearms, and never conducted research on firearms identification. He has no experience in any physical sciences on which toolmark analysis rests, such as

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ballistics, metallurgy, or physics. Despite his general study of the firearms identification literature, Haber could not describe the methods or protocols of a toolmark analyst. Had Haber demonstrated relevant experience or knowledge in one or more of these areas, the issue of his qualifications would have been moot or at least a much closer question. *See, e.g., Kumho Tire Co.*, 526 U.S. at 153 (tire expert qualified based on master's degree in mechanical engineering, manufacturing experience, and tire failure analysis); *Logerquist v. McVey*, 196 Ariz. 470, ¶¶ 15, 32, 1 P.3d 113, 117, 124 (2000) (psychiatrist qualified to testify about amnesia for traumatic experiences based on education and clinical experience); *Lohmeier v. Hammer*, 214 Ariz. 57, ¶¶ 3, 29, 148 P.3d 101, 104, 108-09 (App. 2006) (biomechanical engineer qualified to testify about forces involved in vehicle collision based on education, industry experience, and research).

¶26 Romero and our specially concurring colleague draw a different conclusion about Haber's qualifications, principally relying on his general experience in a forensic consulting firm and experimental background. That consulting is primarily in the area of eyewitness identification and fingerprint analysis. The first area is not surprising because eyewitness identification experts frequently have psychology backgrounds due to the interplay between perception and memory. *See, e.g., United States v. Moore*, 786 F.2d 1308, 1312 (5th Cir. 1986) (noting conclusions of psychological studies serve to "explode common myths about an individual's capacity for perception"), quoting *United States v. Smith*, 736 F.2d 1103, 1105 (6th Cir. 1984); *State v. Chapple*, 135 Ariz. 281, 291, 660 P.2d 1208, 1218 (1983) (expert on eyewitness identification a professor specializing in area of experimental and clinical psychology dealing with perception, memory retention and recall). To qualify as a fingerprint expert, Haber undertook professional training, which was the "equivalent to what a fingerprint examiner would take to be employed in a crime laboratory." Haber offered no such specialized training or experience with firearms identification. Equally important, it is not the role of this court to re-weigh the evidence proffered to qualify a person as an expert. *Cauble v. Osselaer*, 150 Ariz. 256, 258, 722 P.2d 983, 985 (App. 1986) (abuse of discretion standard requires appellate court to uphold trial court's

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determination unless unsupported by evidence or absolutely contrary to uncontradicted and unconflicting evidence).

¶27 Romero alternatively offered to limit Haber’s testimony to a general critique of the field, specifically avoiding anything Powell did. But this position is implicitly grounded on the assumption that a person with experimental design knowledge applicable to one field can apply the same principles to an entirely different field. Science does not support such an assumption and neither does the law.

¶28 For instance, in *Myers*, 553 P.2d at 370, the expert was proffered to opine about the probable cause of an airplane crash based on his experience in “technical, engineering aspects of accident investigations.” He was a member of the Society of Air Safety Investigators and had flown in the Air Force. *Id.* The trial and appellate courts found specific absences more significant than his admittedly pertinent experience in limited areas. The expert “had no formal training as an accident investigator, had never attended a seminar on that subject, was not an aeronautical engineer, was not accredited as an instrument flight pilot, did not have a current pilot’s license, and had never flown a light aircraft similar to the one involved in this crash.” *Id.*

¶29 Similarly, in *United States v. Paul*, 175 F.3d 906, 912 (11th Cir. 1999), the proponent sought to use an evidence law professor who had co-written an article critical of forensic document examiners to rebut the opinion of an expert in that field. Despite his obvious expertise in evidence and having reviewed the literature about document examiners, his lack of knowledge about handwriting analysis precluded his opinions about the examination conducted or the field itself. *Id.* at 911-12. Simply stated, even a person with expertise in one area must demonstrate sufficient knowledge or experience in the pertinent area to qualify as an expert in the particular case regarding a specific opinion.

¶30 Romero indirectly seeks to counter *Paul* by relying on *United States v. Velasquez*, 64 F.3d 844, 848 (3d Cir. 1995), in which the appellate court concluded the trial court erred in precluding the same law professor from criticizing handwriting standards. The

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appellate court did not explicitly address the professor's qualifications. *Id.* Instead, it "point[ed] to the Professor's eight years of self-directed research on handwriting analysis and his co-authorship of a law review article on the subject." *Id.* at 851. It also noted that the government's expert was aware of the professor's scholarship, the professor's criticisms were similar to critiques that had been subject to peer review, and the professor's opinions were specific to the methods used by the government's expert. *Id.* at 851-52. Additionally, the professor had read "nearly all of the literature on the subject," and he had been named an American Bar Association Fellow for creating a testing mechanism to certify handwriting analysts and to validate the accuracy of their identifications. *Id.* at 847 n.4. On first look, the Eleventh and Third circuits appear to be in conflict because they came to contrary conclusions regarding the same law professor arguably offered for the same purpose. The differences, however, illustrate that the proponent in *Velasquez* made a considerably more detailed record concerning the professor's actual experience and work in handwriting analysis.<sup>6</sup> Whether the circuits still would have disagreed about the professor's qualification to testify had the proponents made identical proofs of expertise is unknowable, but from the perspective of reported qualifications, there is no conflict in the decisions.

¶31 Romero also relies on *State v. Lehr*, 201 Ariz. 509, 38 P.3d 1172 (2002), for intertwined propositions that expert testimony generally supporting a defense argument is sufficient under Rule 702 and, in any event, preclusion would violate a defendant's

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<sup>6</sup>We note, however, that the trial court in *A.V. By Versace, Inc. v. Gianni Versace S.p.A.*, 446 F. Supp. 2d 252, 268 (S.D.N.Y. 2006) precluded the professor's testimony, which was offered only to critique the field of handwriting analysis in general. In rejecting the proffer, the court recognized its ability to assess the weight of the opponent's handwriting expert testimony. *Id.* at 268 n.15. There was no discussion of the professor's specific qualifications.

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Sixth Amendment right to present a defense.<sup>7</sup> Similarly, our colleague extends the argument with reliance on a more recent expert witness case, *State v. Salazar-Mercado*, 234 Ariz. 590, 325 P.3d 996 (2014). We discuss them together. First, in both cases the Arizona Supreme Court noted that the qualifications of the defense experts were not challenged or in doubt. *Lehr*, 201 Ariz. 509, n.12, 38 P.3d at 1181 n.12; *Salazar-Mercado*, 234 Ariz. 590, ¶12, 325 P.3d at 999. Second, while there are few rights “more fundamental than that of an accused to present witnesses in his own defense,” the exercise of the right must comply with evidence rules designed to ensure fairness and reliability. *Chambers v. Mississippi*, 410 U.S. 284, 302 (1973). As the Eleventh Circuit Court of Appeals explained, “a court may constitutionally enforce evidentiary rules to limit the evidence an accused (or for that matter any party) may present in order to ensure that only reliable opinion evidence is admitted at trial.” *United States v. Frazier*, 387 F.3d 1244, 1272 (11th Cir. 2004) (right to put on meaningful defense did not include unfettered, unreviewable opportunity to present expert testimony inadmissible under Rule 702).

¶32 Finally, we observe that Romero was not deprived of the right to challenge Powell’s testimony using the same materials Haber referenced. There was a spirited cross-examination of Powell about the 2009 NAS Report and several studies criticizing particular aspects of firearms identification. The jury heard, by quotation and paraphrase, the essence of Haber’s criticisms because much of his analysis was derived from the NAS Report. We conclude the preclusion of Haber’s testimony on the ground he lacked knowledge

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<sup>7</sup>Romero also notes that *Lehr* cites *Velasquez* to support his reliance on the latter case. Such reference is misplaced because the citation in *Lehr* does not pertain to expert witness qualifications. 201 Ariz. 509, ¶ 27, 38 P.3d at 1180. Rather, *Lehr* relies on *Velasquez* in support of the principle “that judges determine admissibility of evidence and juries decide what weight to give it.” *Id.* ¶ 24; see also *Velasquez*, 64 F.3d at 848 (reversing trial court’s preclusion of proffered expert testimony concerning handwriting analysis because evidence sufficiently reliable under Rule 702).



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or practical experience in toolmark analysis did not violate Romero's right to present a defense.

**Criminal Restitution Order**

¶33 Romero lastly argues, and the state concedes, that the trial court erred in entering a criminal restitution order (CRO) at sentencing. We agree and find fundamental error associated with the CRO. *See State v. Lopez*, 231 Ariz. 561, ¶ 2, 298 P.3d 909, 910 (App. 2013). In the sentencing minute entry, the trial court ordered "all fines, fees, assessments and/or restitution are reduced to a Criminal Restitution Order, with no interest, penalties or collection fees to accrue while the defendant is in the Department of Corrections." The trial court's imposition of the CRO before the expiration of Romero's sentence "'constitute[d] an illegal sentence, which is necessarily fundamental, reversible error.'" *Lopez*, 231 Ariz. 561, ¶ 2, 298 P.3d at 910, *quoting State v. Lewandowski*, 220 Ariz. 531, ¶ 15, 207 P.3d 784, 789 (App. 2009). This remains true even though the court ordered the imposition of interest be delayed until after Romero's release. *See id.* ¶ 5.

**Disposition**

¶34 For the foregoing reasons, we vacate the CRO but otherwise affirm Romero's convictions and sentences.

E C K E R S T R O M, Chief Judge, specially concurring:

¶35 Although I fully agree with my colleagues' well-reasoned opinion in every other respect, I cannot agree that the trial court properly precluded the testimony of the defendant's expert witness. In essence, the trial court ruled that an undisputed expert in the scientific field of experimental design was unqualified to testify about the experimental design of toolmark comparison testing. Given that the state claimed at trial that the toolmark comparison evidence demonstrated a match to "a reasonable degree of scientific certainty," Dr. Haber's proposed testimony was relevant and probative to Romero's defense. Because the majority has apparently overlooked the limited scope and nature of Haber's

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proffered testimony, it affirms the trial court's erroneous preclusion of that testimony.

¶36 I write separately at length because, in supporting that ruling, the majority applies an elevated standard for the admission of expert testimony at odds with both Rule 702 and controlling jurisprudence interpreting that rule. Our supreme court has held: (1) the presentation of general expert testimony is admissible to the extent it is relevant, reliable, and helpful to the jury, *State v. Salazar-Mercado*, 234 Ariz. 590, ¶¶ 9-11, 325 P.3d 996, 999 (2014); (2) a trial court's pretrial conclusion that a purported scientific practice is reliable is not binding on the jury, and it invades the province of the jury for a court to preclude otherwise admissible evidence challenging such reliability, *State v. Lehr*, 201 Ariz. 509, ¶¶ 26-29, 38 P.3d 1172, 1180 (2002); and (3) the comparatively relaxed standards for the admission of expert testimony under Rule 702 are not the elevated ones set forth, for example, under the common law in the area of medical malpractice, *Seisinger v. Siebel*, 220 Ariz. 85, ¶¶ 32-35, 203 P.3d 483, 492-93 (2009), or those implicitly set forth by the Eleventh Circuit in *United States v. Paul*, 175 F.3d 906 (11th Cir. 1999). To the contrary, Rule 702 does not require an expert to have qualifications or expertise parallel to those of the opposing party's expert. See Ariz. R. Evid. 702 (expert may be qualified by "knowledge, skill, experience, training, or education" to help jury understand evidence). Rather, experts need only possess wisdom, derived from any of these sources, superior to that of the jury on the topic of their testimony. *Pincock v. Dupnik*, 146 Ariz. 91, 95, 703 P.2d 1240, 1244 (App. 1985).

¶37 In contradiction of this controlling authority, the majority reasons expressly or implicitly that: (1) Dr. Haber's expertise and opinions are too general to be admissible to counter the specific conclusions of the state's firearms identification expert, (2) Haber's experiential qualifications must match or approximate those of the state's expert, (3) a trial court may require an expert to possess experiential qualifications even though Rule 702 sets forth no such prerequisite and even though the expert's topic of testimony would demand no such experience, and (4) an expert in experimental design, who has reviewed all of the studies and

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literature in the field of toolmark identification, provides a jury with no assistance in understanding the limitations, from the standpoint of experimental design, of the toolmark evidence before it. Finally, the majority leaves undisturbed – and unaddressed – the trial court’s erroneous ruling that Haber’s testimony was inadmissible because the court had dispositively resolved the reliability of toolmark identification evidence during the *Daubert* hearing, and that ruling therefore could not be relitigated before the jury.

¶38 As a threshold matter, any assessment of an expert’s qualifications must be anchored in the scope of the expert’s proffered testimony. *See Gaston v. Hunter*, 121 Ariz. 33, 51, 588 P.2d 326, 344 (App. 1978) (expert must be competent to give expert opinion on issue about which he is asked to testify). Here, both the trial court and the majority are correct that Dr. Haber has never been certified to conduct a toolmark comparison test and has never done so himself. However, Romero did not offer Haber to critique Powell’s execution of that test but rather for a more general task: to question the scientific method underlying such tests, when they have been conducted in accordance with the current standards of the field.

¶39 In presenting his opinions on that point at the *Daubert* hearing, Haber articulated the general features of conventional toolmark comparison testing that, in his view, fell short of scientific standards for experimental design. He further testified that those failings limited the scientific weight that could be placed on the results of any such test. As Romero’s counsel clarified, Haber was not offered to comment on the facts of the case or to opine whether Powell was ultimately “right or wrong.” Although Haber testified that he was completely familiar with the extensive literature and studies in the field of toolmark analysis and the protocols for such testing, Romero did not contend that Haber was qualified to challenge whether Powell correctly performed the test of the weapon in accordance with the standards of that field. Instead, Haber opined that those tests, even if conducted correctly, could not scientifically justify the conclusions that the state sought to draw.

¶40 Therefore, our task is not to assess whether Dr. Haber had the qualifications to opine about the mechanics of conducting a

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toolmark comparison but rather whether he was qualified to testify as to the general scientific limitations of the field. Our supreme court has recently held that Rule 702, Ariz. R. Evid., allows an expert to offer “general, educative testimony to help the trier of fact understand evidence or resolve fact issues.” *Salazar-Mercado*, 234 Ariz. 590, ¶ 6, 325 P.3d at 998. The court explained that nothing in Rule 702 “‘alter[s] the venerable practice’ of permitting experts ‘to educate the factfinder about general principles.’” *Salazar-Mercado*, 234 Ariz. 590, ¶ 9, 325 P.3d at 999, quoting Fed. R. Evid. 702 advisory committee notes, 2000 amends.

¶41 Nor are the standards set forth in Rule 702 for the presentation of such testimony either strict or technical. General testimony is admissible if “‘(1) the expert [is] qualified; (2) the testimony address[es] a subject matter on which the factfinder can be assisted by an expert; (3) the testimony [is] reliable; and (4) the testimony “fit[s]” the facts of the case.’” *Salazar-Mercado*, 234 Ariz. 590, ¶ 10, 325 P.3d at 999, quoting Fed. R. Evid. 702 advisory committee notes, 2000 amends. (alterations in *Salazar-Mercado*). The “‘fit’ pertains to Rule 702(a)’s ‘helpfulness’ standard.” *Salazar-Mercado*, 234 Ariz. 590, n.1, 325 P.3d at 999 n.1.

¶42 Helpfulness is determined by “‘the common sense inquiry whether the untrained layman would be qualified to determine intelligently and to the best possible degree the particular issue without enlightenment from those having a specialized understanding of the subject involved in the dispute.’” Fed. R. Evid. 702, advisory committee notes, 1972 proposed rules, quoting Ladd, *Expert Testimony*, 5 Vand. L. Rev. 414, 418 (1952). The requirement that evidence be helpful to assist the jury is “‘satisfied where expert testimony advances the trier of fact’s understanding to any degree.’” *United States v. Archuleta*, 737 F.3d 1287, 1297 (10th Cir. 2013), quoting 29 Charles Alan Wright & Victor James Gold, *Federal Practice and Procedure: Evidence* § 6265, at 250 (1997). Helpfulness is therefore similar to relevance, and it is a low threshold to clear. *E.E.O.C. v. Boh Bros. Constr. Co.*, 731 F.3d 444, 459 n.14 (5th Cir. 2013) (en banc).

¶43 In the context of the case before us, Dr. Haber’s proffered testimony far exceeded this modest standard. Because the

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state lacked any eyewitness evidence that Romero was involved in the homicide, its case depended on demonstrating Romero's connection to items found or identified at the crime scene. Before trial, the state conducted a toolmark analysis on a .40 caliber Glock handgun found in Romero's vicinity a month after the shooting. The state's toolmark expert opined that, based on a visual comparison he had conducted of the spent cartridges found at the murder scene with those ejected by the Glock handgun during testing, the cartridges at the scene could have been fired only by that handgun. At trial, the state elicited, and the state's expert maintained, that such matches reflected "a reasonable degree of scientific certainty."

¶44 The defense presented Dr. Haber to challenge the validity of this scientific claim. In essence, the defense offered Haber to testify that: (1) the general thesis that each handgun leaves a unique signature of discernible markings on both cartridges and bullets has not yet been scientifically demonstrated;<sup>8</sup> (2) that no standards have been developed for determining which types of "tool marks" on a cartridge or bullet are relevant to conducting the visual comparison, nor have any standards been developed for determining how many similarities in markings are necessary to conclude that a cartridge or bullet had been fired by a particular weapon; (3) that not enough is scientifically documented about the

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<sup>8</sup>This conclusion is supported by a recent study of several forensic sciences conducted on behalf of the National Academy of Sciences. Nat'l Research Council of the Nat'l Academies, *Strengthening Forensic Science in the United States: A Path Forward* 154 (2009) (hereinafter "NAS Report"); see also Jennifer L. Mnookin, *The Courts, the NAS, & the Future of Forensic Science*, Brook. L. Rev. 1209, 1209-10 (2010) (observing that, "[f]or many long-used types of forensic science, including fingerprint identification, firearms identification, handwriting identification, and toolmark identification, experts' claims about their field, the authority of their methodologies, and their own abilities have dramatically outstripped what has actually been established by persuasive research and careful study").

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similarities or differences between the tool marks left by individual guns; and (4) therefore, isolated toolmark comparisons cannot yet confidently determine by scientific standards whether a certain visual similarity in bullets and cartridges demonstrates a match—or merely reflects similarities of make (class) or production batch (subclass).

¶45 In short, the state’s contention that the fatal bullets could only have been fired from a gun later found near Romero was significant to its case. Dr. Haber’s testimony would have been relevant and therefore helpful to the jury in determining how much weight to give the testing evidence marshaled by the state’s expert in support of that claim. Notably, neither the state nor the trial court appeared to question the relevance of Haber’s proposed testimony. Indeed, the court allowed defense counsel to develop the same critique of the toolmark identification evidence during cross-examination of the state’s expert during trial.

¶46 Thus, while there is little dispute that the topic of Dr. Haber’s testimony would have been relevant and helpful to the jury, the trial court ultimately precluded his testimony on the ground he lacked adequate qualifications to so testify. In determining whether a witness is adequately qualified to testify, we must be mindful that “it is not required that the witness have the best possible qualifications, nor the highest degree of skill or knowledge, so long as [the witness] does have skill and knowledge superior to that of [persons] in general.” *Pincock*, 146 Ariz. at 95, 703 P.2d at 1244, quoting 1 Morris K. Udall & Joseph M. Livermore, *Arizona Practice: Law of Evidence* § 22, at 31 (2d ed. 1982). A proposed expert witness need not “satisfy an overly narrow test of his own qualifications” and is not required to have certificates of training or membership in a professional organization. *United States v. Barker*, 553 F.2d 1013, 1024 (6th Cir. 1977), quoting *Gardner v. Gen. Motors Corp.*, 507 F.2d 525, 528 (10th Cir. 1974).

¶47 Moreover, an expert’s qualifications need not mirror or parallel those of the expert whose opinions he or she may challenge. To the contrary, Rule 702 contemplates the admissibility of conflicting expert testimony “based on competing methodologies.” Ariz. R. Evid. 702 cmt. For this reason, the state’s contention that Dr.

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Haber lacked the qualifications to assist the jury in evaluating the reliability of toolmark analysis, simply because he was not a practitioner of the methodology used by the state's expert, finds little support in Rule 702 or our jurisprudence interpreting that rule.<sup>9</sup>

¶48 Notably, the state's toolmark expert, Frank Powell, lacked the education, training, and experience to address Dr. Haber's fields of expertise—statistical analysis and experimental design. Yet, both Powell and Haber, one qualified primarily by experience and practice and the other primarily by education and study, were able to provide information “helpful” and relevant to the jury in resolving the question before it.

¶49 Indeed, the record demonstrates that Dr. Haber had acquired ample education, training, and experience to evaluate, from the standpoint of scientific method, whether particular experiments produce scientifically valid conclusions. He testified that he has a Ph.D. in experimental psychology from Stanford University, which originally trained him to teach experimental design. He taught experimental design for six years at Yale University and thereafter for fifteen years at the University of Illinois and the University of Rochester.

¶50 Notwithstanding the majority's suggestion that he has rarely applied his expertise in scientific design outside the field of psychology, he has been trusted by twenty different academic journals to conduct peer review of articles *in a variety of scientific fields* as to “experimental designs” and “the interpretations and the statistical methods” used to support “the conclusions reached.” Organizations that have sought Dr. Haber's expertise in experimental design include the National Science Foundation and

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<sup>9</sup>Nor would such a rule be practical. Those experts who are skeptical of the scientific status of a practice would not likely become trained practitioners of its methodology. An astronomer need not be a practitioner of astrology to provide expertise on whether the latter field is anchored in scientific principles. And to require as much would risk insulating expert opinions from cross-disciplinary critique.

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the National Institute of Health. Since 1994, for two decades, Haber has applied that expertise to research conducted in the field of the forensic sciences. He has testified numerous times in the area of fingerprint comparisons. He has been asked to analyze grant applications for the study of forensic sciences by the National Institute of Justice (NIJ), the research arm of the U.S. Department of Justice. Specifically, the NIJ has asked him to analyze the merits of a grant application for research of handgun identification.

¶51 He testified that he is “thoroughly familiar” with the literature in the field of handgun identification through toolmark identification and has written a paper, published in the California Bar Journal, on the topic. He likewise testified that he is thoroughly familiar with both the methodology and studies in the field of firearms identification, including the publications of the NIJ that provide guidelines and the most current research. Thus, while Dr. Haber is no practitioner of the discipline of toolmark comparisons, he is sufficiently learned in its methodologies and protocols to usefully apply his undoubted expertise in experimental design to that field.<sup>10</sup>

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<sup>10</sup>To counter this point, the majority selectively quotes Haber’s testimony that he had “no idea what an examiner does when he carries out an examination.” The true meaning of this quotation is provided by the sentence immediately preceding it, wherein Haber stated, “I can’t talk about the error rate for a method, because there is no method that’s described.” In the context of his complete testimony, Haber was bluntly emphasizing that an examiner’s methodology – namely, “put[ing] the cartridge and the bullet in a comparison microscope and look[ing] at them and mak[ing] a judgment then of whether they are from the same gun or not” – did not amount to a scientific methodology and could not be tested as such, because “[e]very examiner must be doing something slightly different” and “[h]is conclusions are clearly personal or subjective.” Haber was not suggesting he was unfamiliar with the methodology and protocol for conducting a toolmark test, as he made abundantly clear throughout his testimony.



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¶52 In short, Dr. Haber possesses knowledge, education, and experience far beyond that of the layperson for analyzing which scientific or statistical conclusions may be drawn from a particular experimental methodology and which may not. Indeed, he has been trusted by numerous scientific journals and our nation's most prestigious scientific foundations to do precisely that in a wide variety of fields. And, he has applied that knowledge for many years to evaluating various forensic techniques.

¶53 The majority's suggestion that Dr. Haber is little more than a psychologist dabbling in a field otherwise alien to him cannot be reconciled with the record before us. And, when viewed in light of the correct legal standard set forth in Rule 702, which sets a modest threshold, the record simply does not support the trial court's conclusion that Haber was unqualified to offer general opinions on the scientific reliability of toolmark comparisons based on his understanding—which is comprehensive—of the experimental design of that methodology.<sup>11</sup> See *Villalpando v. Reagan*, 211 Ariz. 305, ¶ 6, 121 P.3d 172, 174 (App. 2005) (abuse of discretion occurs when record does not substantially support trial court's decision); see also *State v. Chapple*, 135 Ariz. 281, 297 n.18, 660 P.2d 1208, 1224 n.18 (1983) (trial court abuses discretion in precluding expert when reasons given for ruling are clearly untenable or unsupported by record). In this context, any arguable deficits in Haber's skill or training would go to the weight of his testimony rather than its admissibility—a result Rule 702 specifically contemplates. See Ariz. R. Evid. 702 cmt. ("The trial court's

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<sup>11</sup>The trial court's order demonstrates that she erroneously considered any trial dispute about the scientific reliability of toolmark comparison evidence to be foreclosed by her *Daubert* ruling. See *infra* ¶¶ 65-68. Given that Haber's testimony exclusively addressed this very topic, her simultaneous finding—that he lacked adequate qualifications to critique Powell's testimony—might merely reflect a narrower, and more accurate, conclusion that he was unqualified to address Powell's execution of the test. But the effect of such a determination would be to set appropriate boundaries for Haber's testimony rather than to preclude it altogether.

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gatekeeping function is not intended to replace the adversary system. Cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”).

¶54 Notwithstanding the above record of Dr. Haber’s affirmative qualifications, the majority asserts in essence that Haber’s general expertise in experimental design does not qualify him to analyze the specific scientific method underlying toolmark comparison evidence. To support this proposition, the majority cites two treatises to support the premise that “[t]he application of experimental design principles ‘differ[s] widely from field to field.’” *Supra* ¶ 24, quoting *Science Primer, supra*, at 1629.

¶55 But this unassailable premise casts doubt on Dr. Haber’s qualifications only if he rendered his opinions in ignorance of it. In fact, the record before us demonstrates that Haber exerted himself over a period of several years to become comprehensively conversant with the “literature,” “methodology,” and “studies” in the specific field of forensic toolmark comparisons before offering his expertise about the scientific design of that field. The record also demonstrates that Haber has spent decades in academia teaching experimental design at several of our nation’s most prominent universities. We can therefore infer that he understands the most basic premises of his own field, is conversant with the “classic text[s]” in experimental design, *supra* ¶ 24, and applied the lessons from them here.<sup>12</sup> Furthermore, the record shows that Haber has been trusted by numerous academic journals to conduct peer review, from the standpoint of scientific design, in a variety of

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<sup>12</sup> Neither of the treatises articulating the foundations of scientific design is found in the record before us. The hazard of citing such materials for the first time on appeal, in support of a trial court’s finding of fact, becomes apparent here. In essence, the majority finds fault with Haber’s qualifications by suggesting that his conclusions run afoul of the teachings of academic materials: materials that Haber never was presented an opportunity to address during trial court proceedings.

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scientific fields. This, at minimum, demonstrates that these journals believe Dr. Haber has broadly applicable expertise.

¶56 Finally, our record contains no suggestion that Dr. Haber misidentified any scientific principles at play in the toolmark field or even that the trial court considered this a factor in precluding his testimony. In short, the majority’s claim here – that Haber’s testimony could be precluded properly on the ground he lacked sufficient sophistication in scientific design to apply that wisdom specifically to the toolmark field – finds no foothold in the record before us.

¶57 I fear the majority not only mischaracterizes Dr. Haber’s qualifications in assessing his expertise to testify; it also implicitly applies a standard at odds with our state’s rules of evidence in so doing. As discussed above, experts are deemed qualified if they possess wisdom greater than that of the jury as to the specific topic of their testimony. Although superior wisdom may be gained in a variety of ways, including by experience and training, *see* Ariz. R. Evid. 702, our supreme court has clarified that mere careful study is an equally appropriate method of securing expert qualification. *See Macumber*, 112 Ariz. at 570, 544 P.2d at 1085 (superior knowledge necessary to assist the jury may be based on nothing more than “careful study”); *see also* Ariz. R. Evid. 702 (itemizing “education” as a basis for expert qualification).

¶58 By that correct standard, the record before us is incontrovertible: as to Dr. Haber’s topic – the experimental design features of toolmark evidence – Haber has superior knowledge to the jury. He is a nationally trusted expert in experimental design generally and has applied that wisdom to toolmark evidence specifically only after “careful study” of the toolmark comparison field.<sup>13</sup>

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<sup>13</sup>Indeed, unless some toolmark comparison practitioner exists who has become an expert in the field of experimental design, it is difficult to conjure an expert more qualified on the topic of Dr. Haber’s proffered testimony than Haber himself.

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¶59 Rather than assessing Dr. Haber’s expertise by evaluating whether he has expertise superior to the jury, the approach required by our rules and jurisprudence, the majority compares Haber to the mythological perfect witness: the expert in experimental design who has also become expert in the experiential practice of executing a toolmark comparison. Accordingly, my colleagues find fault with Haber’s qualifications because, *inter alia*, he has never been trained as a metallurgist and has never conducted a toolmark comparison himself. *Supra* ¶ 25.<sup>14</sup> While these may indeed be qualifications that would make Haber a more perfect expert on his topic, and although our supreme court could hypothetically erect a rule for expert testimony requiring such elevated standards for its admission, my colleagues’ approach is simply not the one set forth in our pertinent rules and jurisprudence. The majority supports its approach primarily with reference to one case from a lone federal circuit, *United States v. Paul*, 175 F.3d 906 (11th Cir. 1999).<sup>15</sup> There, in finding the expert unqualified, the court

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<sup>14</sup> The majority also chides Romero for not offering “a curriculum vitae, bibliography of published articles, or other record of Haber’s experiences and training,” *supra* ¶ 22, and thereby suggests we are presented with an inadequate record of his qualifications. But Romero elicited exhaustive testimony from Haber under oath demonstrating his pertinent expertise in both experimental design and toolmark analysis. Such testimony constitutes a “record.” Moreover, Rule 702 requires no special format for the presentation of an expert’s qualifications.

<sup>15</sup>The majority also cites *Myers v. Cessna Aircraft Corp.*, 553 P.2d 355 (Or. 1976), to support precluding Haber’s testimony. But there, the Oregon Supreme Court did not affirm the wholesale preclusion of the trial testimony of the expert in question. *See id.* at 369. Rather, the court merely barred that expert from opining on one topic outside his expertise. *See id.* The witness, an expert trained in mechanical engineering with some limited experience investigating aircraft accidents, was allowed to testify generally about mechanical and engineering matters relevant to the airplane crash, but he was not permitted to render an opinion on its ultimate cause. *Id.* at 369-70. Here, Haber was never proffered to render an ultimate opinion

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emphasized the witness's lack of practical training in conducting handwriting analysis and that his only claim to expertise derived from having reviewed the literature in the field. *Id.* at 912. By contrast, our supreme court has held that an expert may indeed be qualified by "careful study" alone, *Macumber*, 112 Ariz. at 570, 544 P.2d at 1085, and it has promulgated Rule 702 which, by its terms, makes no distinctions about the types of expertise necessary to demonstrate superior and helpful knowledge to the jury.

¶60 Moreover, the Eleventh Circuit supported its rejection of study as a basis for expertise by observing that the witness's education as a law professor "did not make him any more qualified to testify as an expert . . . than a lay person who read the same articles." *Paul*, 175 F.3d at 912. That conclusion implies that we must measure an expert's qualifications against a hypothetical lay person who has reviewed the same literature. Such a standard, which is offered without any authority, finds no support in either the language or logic of Rule 702. Rule 702 requires an expert to possess only such "knowledge, skill, experience, training, or education" to "help the trier of fact to understand the evidence." Ariz. R. Evid. 702; see *Archuleta*, 737 F.3d at 1297; *Chapple*, 135 Ariz. at 292-93, 660 P.2d at 1219-20. And, the *Paul* reasoning overlooks that the trier of fact in a criminal case is almost always a jury – a group of laypersons who have most assuredly not reviewed all the literature in a pertinent specialized field.<sup>16</sup>

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about the execution of the toolmark comparison conducted in the instant case. For this reason, *Myers* provides no authority for excluding Haber's general testimony about the scientific design underlying toolmark evidence. Rather, *Myers* suggests such general testimony would be admissible, just as the expert there was allowed to testify to matters within his general expertise. *See id.*

<sup>16</sup> Moreover, my colleagues' reasoning in finding *Paul* controlling fails to consider that a nationally recognized expert in the field of experimental design such as Dr. Haber would read toolmark literature with a considerably more sophisticated eye than a layperson and therefore be far better equipped to assist the jury in understanding it.

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¶61 Finally, the miserly approach to assessing expert qualifications applied in *Paul* has not been adopted by other federal circuits. The Third Circuit, in *United States v. Velasquez*, reversed the trial court for precluding the very same handwriting analysis expert whose qualifications were deemed insufficient in *Paul*. 64 F.3d at 848. In a dramatically different approach to that set forth by the Eleventh Circuit, the Third Circuit acknowledged that the proffered defense expert had gained specialized knowledge through years of study and academic work, *id.* at 847 n.4, and, despite the fact that he was not a qualified practitioner of the forensic science at issue, *id.* at 848 n.6, his general testimony critical of the field was nonetheless admissible because it “called into doubt the reliability and credibility” of the expert testimony offered by the prosecution and would have allowed the jury “to properly weigh th[at] testimony.” *Id.* at 848.

¶62 In so concluding, the court emphasized both “the ‘strong and undeniable preference [in Rule 702, Fed. R. Evid.,] for admitting any evidence having some potential for assisting the trier of fact’” and the relaxed standard for possessing adequate expertise to so testify. *Velasquez*, 64 F.3d at 849, quoting *DeLuca v. Merrell Dow Pharm., Inc.*, 911 F.2d 941, 956 (3d Cir. 1990). As the court observed, “[w]e have held that a broad range of knowledge, skills, and training qualify an expert as such,’ and have ‘eschewed imposing overly rigorous requirements of expertise.’” *Id.*, quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 741 (3d Cir. 1994). Indeed, this is the approach endorsed by the United States Supreme Court in *Daubert*. See 509 U.S. at 588-89 (emphasizing “permissive backdrop” and “‘liberal thrust’ of the Federal Rules and their ‘general approach of relaxing the traditional barriers to opinion testimony’”), quoting *Beech Aircraft Corp. v. Rainey*, 488 U.S. 153, 169 (1988).

¶63 As discussed above, these standards parallel those set forth in our own version of Rule 702 and our state’s jurisprudence. In conformity with this liberal approach to admitting expert testimony, our supreme court has cited *Velasquez* with approval for the proposition that a trial court’s gatekeeping function under Rule 702 must not usurp the jury’s exclusive role in deciding the weight and credibility of testimony. *Lehr*, 201 Ariz. 509, ¶ 27, 38

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P.3d at 1180. And, although the majority is correct that we owe trial courts considerable deference in assessing whether a proffered expert is sufficiently qualified to testify, our supreme court has not hesitated to reverse trial courts when, as here, the exercise of that gatekeeping function usurps the jury's role in determining the appropriate weight to give an expert's opinion. *See id.*

¶64 In short, the reasoning set forth in *Paul* is at odds with the approach to analyzing expert qualifications adopted by Rule 702 of the Arizona Rules of Evidence and our controlling jurisprudence. *Paul*'s holding is squarely contradicted by another federal case, *Velasquez*, which has been cited with approval by our own supreme court. I therefore cannot agree that we should anchor our reasoning in *Paul*, and I fear that, in so doing, we threaten Arizona's long held preference for trusting juries to assess the comparative credibility of those experts who may provide them helpful testimony.

¶65 Finally, at the core of the trial court's decision to preclude Dr. Haber's testimony was a fundamental misunderstanding of the appropriate purpose of expert testimony. The court precluded Haber's trial testimony on the grounds that the court already had found the methodology and conclusions of the state's expert sufficiently reliable during the *Daubert* hearing, and that the defense was not thereafter allowed to further "challenge an evidentiary ruling that's already been made by the Court." The court further reasoned, "I don't think that the new rule . . . adopting *Daubert* was anticipating that once the Court applied the rule that an expert would come in and challenge the Court's findings."

¶66 In the closely analogous context of a *Frye* hearing, our supreme court has rejected this very reasoning. *Lehr*, 201 Ariz. 509, ¶¶ 23-30, 38 P.3d at 1179-81. There, the defendant sought to challenge at trial the reliability of the protocol used by the state's laboratory for DNA testing. *Id.* ¶¶ 20-23. The trial court precluded that testimony on the primary ground that the laboratory's protocol "was not within the jury's province" and that allowing the defense to re-litigate the scientific reliability of that protocol before the jury would provide an improper "second bite at the apple." *Id.* ¶¶ 23, 25.

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¶67 Our supreme court reversed and observed that the trial court's reasoning "fails to recognize that very often the same proof used to establish admissibility also impacts weight and credibility." *Id.* ¶ 25. It then articulated the analytical distinction between the respective roles of the trial court and jury as follows:

A *Frye* determination is a preliminary finding regarding the admissibility of scientific evidence and expert qualifications. It is the judge who is called upon to make this determination. Ariz. R. Evid. 104(a). Yet, according to Rule 104(e), the judge's role in determining preliminary questions "does not limit the right of a party to introduce before the jury evidence relevant to weight or credibility." Ariz. R. Evid. 104(e). Implicit in this rule is an awareness that some evidence presented at the preliminary hearing will also be relevant to credibility and weight. Otherwise, Rule 104(e) would be superfluous.

*Lehr*, 201 Ariz. 509, ¶ 26, 38 P.3d at 1180.<sup>17</sup> It concluded that the trial court's preclusion of the evidence presented at the *Frye* hearing "infringed upon the role of the jury and improperly insulated the state's evidence from critique." *Lehr*, 201 Ariz. 509, ¶ 29, 38 P.3d at 1180.

¶68 Although the supreme court has adopted new rules for the pretrial determination of the admissibility of expert testimony since *Lehr*, see *Salazar-Mercado*, 234 Ariz. 590, ¶ 1, 325 P.3d at 997, those rules similarly recognize that the threshold *Daubert* screening is not intended to diminish the jury's role in assessing the reliability

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<sup>17</sup> Although *Lehr* quoted the prior version of Rule 104, its material provisions remain the same. See Ariz. R. Evid. 104 cmt. (noting changes intended to be stylistic only).



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of expert testimony. As the Comment to the 2012 Amendment to Rule 702 observes:

The amendment is not intended to supplant traditional jury determinations of credibility and the weight to be afforded otherwise admissible testimony . . . . Cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.

When the trial court precluded Dr. Haber's testimony challenging the reliability of the state's evidence on the ground that the court had already resolved that question during the *Daubert* hearing, the court overlooked that Haber's testimony went to the weight and credibility of the state's expert testimony and that its preclusion improperly insulated the state's expert from critique.<sup>18</sup> The majority mentions this erroneous component of the trial court's ruling without further comment but overlooks that it likely influenced the trial court's skepticism about Haber's qualifications.

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<sup>18</sup>This problem becomes especially pronounced when, as here, an experience-based expert makes scientific claims. As noted, the state's expert made scientific claims about the reliability of his conclusions. And he specifically disputed on cross-examination that no statistical probabilities existed concerning erroneous matches, asserting that there had been "several papers written" on the topic and that each of them had found the chance of another gun making the same identifiable markings to be "astronomical." This claim would have been forcefully rebutted by Haber's proposed testimony. *Accord* NAS Report, *supra*, at 153-54 ("[T]he decision of the toolmark examiner remains a subjective decision based on unarticulated standards and no statistical foundation for estimation of error rates."). In fact, the state capitalized on the absence of Haber in this skirmish, observing in summation that Romero had presented "no evidence from this courtroom, from that witness stand that actually challenges firearm analysis."

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¶69 In my view, for all the reasons set forth in this concurring opinion, the trial court erred in precluding the proffered testimony of Dr. Haber. Notwithstanding the relevance of that testimony to significant evidence against Romero, I would also conclude the trial court's error was harmless beyond a reasonable doubt. Haber's testimony was brought exclusively to challenge the weight the jury could place on Powell's opinion that only Romero's gun could have fired the fatal shots. But there was other circumstantial evidence connecting Romero to the scene of the crime. Romero was both connected to a cell phone found at the scene and a truck observed leaving it. Given that the gun in question was found with the very person otherwise connected to the crime by two other items of evidence, the results of Powell's testing rendered the proposition that another gun had fired the bullets unlikely in the extreme. Put another way, it would be an extraordinary coincidence if a weapon creating such similar markings as the murder weapon, but not involved in the murder, would happen to be found with Romero. Haber's testimony – that Powell's methodology could not scientifically exclude every other handgun in circulation as having fired the weapon – would not have altered that stark fact. I therefore concur in the result affirming Romero's conviction and sentence.