

No. 22-899

In the Supreme Court of the United States

JASON SMITH, PETITIONER

v.

STATE OF ARIZONA

*ON WRIT OF CERTIORARI
TO THE COURT OF APPEALS OF ARIZONA, DIVISION ONE*

**BRIEF FOR THE UNITED STATES AS AMICUS CURIAE
SUPPORTING NEITHER PARTY**

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QUESTION PRESENTED

Whether the Confrontation Clause of the Sixth Amendment is satisfied when an expert witness provides opinion testimony that is based in part on data from laboratory tests performed in whole or in part by someone who is not testifying.

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INTEREST OF THE UNITED STATES

This case concerns whether the Sixth Amendment’s Confrontation Clause permits the prosecution in a criminal trial to present forensic expert testimony based in part on data produced through laboratory procedures that the testifying expert did not personally perform or observe. Because the Court’s resolution of the question presented may affect federal prosecutions that depend on forensic evidence, the United States has a substantial interest in this case.

STATEMENT

Following a jury trial in Arizona state court, petitioner was convicted of possessing a dangerous drug, possessing marijuana for sale, possessing a narcotic drug, and possessing drug paraphernalia. Pet. App. 3a, 18a-20a. He was sentenced to four years of imprison-

ment. *Id.* at 18a-20a. The Arizona Court of Appeals affirmed, *id.* at 2a-16a, and the Arizona Supreme Court denied review, *id.* at 1a.

1. In December 2019, state law enforcement officers executed a search warrant on property belonging to petitioner’s father. Pet. App. 3a-4a. When officers approached a shed located on the property, they detected an “overwhelming odor of fresh marijuana and burnt marijuana.” *Id.* at 3a. After the officers knocked and announced their presence twice, petitioner opened the door. *Id.* at 3a-4a. Inside the shed, officers found a “‘makeshift room’ containing a bed, a couch, a workbench, a cabinet, a small refrigerator, and scattered clothes.” *Id.* at 4a.

A search of the room uncovered more than six pounds of marijuana, as well as cannabis wax, drug paraphernalia, and methamphetamine. Pet. App. 4a. Officers arrested petitioner and 11 others on the property. *Ibid.* Petitioner was thereafter indicted for possessing dangerous drugs (methamphetamine) for sale; possessing marijuana for sale; possessing a narcotic drug (cannabis wax) for sale; and two counts of possessing drug paraphernalia. *Id.* at 4a-5a.

2. On February 1, 2021, the Arizona Department of Public Safety’s Western Regional Crime Laboratory received a number of samples recovered from the shed for testing. Pet. App. 49a-50a, 85a-86a. Elizabeth Rast, a forensic scientist at the Department, tested eight items to determine whether they contained illegal drugs. *Id.* at 5a, 85a-87a, 88a-126a.

A three-page “scientific examination report,” signed by Rast, summarized Rast’s “results/interpretations” that four samples contained usable quantities of methamphetamine, that four contained usable quantities of

marijuana or cannabis, and the weights of the substances. Pet. App. 85a-87a (capitalization and emphasis omitted). As required by the Arizona lab's accreditation, the report specified that "[a]ny notes[,] photographs[,] charts[,] or graphs generated during the examination are retained in the laboratory." *Id.* at 86a. Additional unsigned materials showing the data generated by the tests that Rast performed on each item were attached in an appendix. *Id.* at 88a-126a.

3. The State originally identified Rast as an expert witness who would testify at trial. Pet. App. 26a. In the time between testing and trial, however, Rast left her employment at the Department. *Id.* at 45a. Several weeks before trial, the State amended its final pretrial conference statement to reflect that Gregory Longoni, a different forensic scientist at the same laboratory, would testify instead. *Id.* at 26a. The State represented that Longoni would "provide an independent opinion on the drug testing." *Ibid.*

a. At trial, Longoni testified to his qualifications as a forensic scientist at the Western Regional Crime Laboratory. Pet. App. 29a-30a. He testified that the laboratory is accredited, requiring that its practices comply with guidelines from an outside entity. *Id.* at 31a. He also testified about the lab's policies and practices, describing the various drug tests that the lab performs, the intake process of items to be analyzed, the procedures for tracking those items, the lab's recordkeeping practices, and other quality assurance measures that the lab follows. *Id.* at 32a-38a.

Longoni then explained that, before trial, he had reviewed various records relevant to this case, including the "request from law enforcement to have the drugs examined," the "intake records," the "records of what

instruments were used” and “what tests were done,” and the “results of those tests.” Pet. App. 39a. With Rast’s report in hand, Longoni testified that the “policies and practices” of the lab that he had described “were followed” in testing the first item. *Id.* at 40a. He further testified that “[f]rom [his] review of the lab notes,” he could tell that Rast had performed a “microscopic examination” and a “chemical color test” on that item. *Id.* at 41a-42a. And he asserted that based on his review of the notes, he could “form an independent opinion” about the identity of the substance tested. *Id.* at 42a.

Defense counsel objected on the ground that Longoni had not performed the testing. Pet. App. 42a. The trial judge granted defense counsel’s request for voir dire, during which defense counsel established that Longoni did not personally test any item in the case, did not confer with Rast about the case, and did no quality assurance with Rast “to confirm or corroborate” her report. *Id.* at 43a-45a. The trial judge overruled defense counsel’s objection and permitted Longoni’s direct examination to continue. *Id.* at 45a.

Longoni testified about four items that Rast had tested. Pet. App. 46a-48a. For each item, Longoni testified that Rast had performed widely accepted laboratory tests—including a microscopic examination, a chemical color test, and a gas chromatograph/mass spectrometer test—and that she had completed the tests consistent with the laboratory’s policies and procedures. *Id.* at 37a, 41a-42a, 46a-48a. Longoni then testified that he could “form an independent opinion” as to the identity of each substance based on his experience and training, familiarity with the laboratory procedures, and the

data from the laboratory tests. *Id.* at 42a, 46a-49a. Longoni opined that two of the items tested were methamphetamine, one was marijuana, and one was cannabis. *Id.* at 46a-49a.

b. Following Longoni's testimony, defense counsel moved for a judgment of acquittal, arguing that Longoni's testimony was "the testimonial admission of scientific data from another expert" in violation of the Sixth Amendment's Confrontation Clause. Pet. App. 57a-58a. The trial court rejected that argument, reasoning that Longoni had "testified of his own opinion" as to the "nature of the substances" tested. *Id.* at 62a.

The jury found petitioner guilty on all counts, though only on lesser-included simple-possession offenses for the methamphetamine and cannabis counts. Pet. App. 6a, 17a-20a.

4. The Arizona Court of Appeals affirmed. Pet. App. 2a-16a. The court rejected petitioner's renewed Confrontation Clause argument, concluding that Longoni had "presented his independent expert opinions permissibly based on his review of Rast's work," and that Longoni "was subject to [petitioner's] full cross-examination." *Id.* at 11a. The court noted that the State did not "introduce Rast's opinions or any of her work-product documents into evidence" and that petitioner "could have called [Rast] to the stand and questioned her, but he chose not to do so." *Id.* at 12a.

The Arizona Supreme Court denied review. Pet. App. 1a.

SUMMARY OF ARGUMENT

In this case, the state courts may not have done enough to protect petitioner's Confrontation Clause rights. But case-specific errors on this record should not cast doubt on the commonplace procedures for admitting expert

opinion testimony, which are exemplified by the Federal Rules of Evidence. Those procedures ensure that experts are subject to cross-examination about their opinions and the processes for reaching them. When an expert relies on data generated by others—a ubiquitous feature of expert testimony—any introduction of the underlying data is offered to explain how the expert reached his opinion, not for the truth of the matter asserted. A decision in this case should not call those standard rules of evidence into question, which could transform the Confrontation Clause into a potentially unworkable obstacle in many drug, murder, and rape cases that rely on forensic evidence.

This Court's recent cases applying the Confrontation Clause to expert testimony exclude only out-of-court opinions, not live testimony from experts presenting their *own* opinions. When an expert testifies in person, the Federal Rules require the trial court to ensure that the expert has independently applied his knowledge and expertise, in a manner connected to the case, based on methods and data accepted in his field. Consistent with how experts operate in the real world, the opinion will often incorporate data produced by others—for example, an X-ray taken by a technician rather than a testifying radiologist himself. But when the expert testifies at trial, he testifies about his opinion, and need not disclose any underlying information at all. And if the expert refers to the underlying information to explain how he arrived at his opinion, the information is offered for that purpose and not for its truth—and the defendant is entitled to an express limiting instruction to that effect.

Thus, in a drug case, an expert can testify to his opinion that a substance is a drug. Evidence from the expert or others about laboratory procedures can provide the

jury with a basis for concluding that the expert's lab tested the substance that the defendant possessed. And if the jury hears that the expert arrived at his opinion by comparing graphs produced by technicians operating a gas-chromatograph/mass-spectrometer machine, that evidence would simply be descriptive of the expert's process in reaching his opinion. The jury would not receive the graph evidence itself—which would in any event be inscrutable to lay persons. Finally, defense counsel would have the opportunity to vigorously cross-examine the expert about his process, including his reliance on the work of others, and to point out weaknesses in the prosecution's proof.

Those weaknesses go to the weight of the expert's opinion, not the adequacy of the defendant's ability to confront it. And because juries may not be convinced by the ultimate opinion alone, the prosecution will have every incentive to provide additional evidence from others involved in the expert's process. But such additional evidence is not necessary for Confrontation Clause purposes, and holding otherwise could threaten any number of prosecutions that depend on forensic evidence. Taken to its logical conclusion, petitioner's position could imply that every person involved in a forensic test must testify—which could include as many as 13 people testifying about DNA matching in each rape or murder case. And even if petitioner's argument were limited to substitute experts, his approach would affect the many cases in which the original expert might be unavailable and the evidence is not amenable to retesting.

This Court has thus far avoided such an unwarrantedly broad extension of the Confrontation Clause, and this case does not require that result. Longoni's partic-

ular testimony may have ventured into vouching for actions that he did not himself observe, or even given the impression that he was a mouthpiece for Rast's out-of-court opinion. The Court can—and should—vacate and remand on those grounds alone, without more broadly calling into question the standard evidentiary rules governing expert testimony.

ARGUMENT

Few experts do their work completely alone—personally calibrating every machine, personally shepherding every sample around the lab, and personally performing every mechanical task. Instead, experts necessarily rely on work by others, be it treatises and studies, accepted standards for laboratory procedures, or data produced by running a sample through a machine. Under the Federal Rules of Evidence, once a court is assured that reliance on such information is acceptable in the expert's field, the expert may present an opinion relying on the information and be cross-examined on his opinion and how he formed it. The expert's testimony as to his opinion need not even mention the underlying information, and any reference to it would be to inform the jury about the expert's process in arriving at his opinion—not to present the underlying information for its own truth.

Accordingly, even if the information were deemed “testimonial,” the expert's opinion relying on it—the substantive evidence that the expert presents and about which he is required to testify in court—is consistent with the Confrontation Clause. Holding otherwise could produce an unworkable extension of the Clause, under which a parade of witnesses would be required in each and every case in which a drug, DNA, or other sample is tested. While the expert testimony in this

case may not have followed proper safeguards and should be sent back to the state courts, the Court need not and should not cast doubt here on the Federal Rules' basic approach to expert testimony.

I. THE CONFRONTATION CLAUSE PERMITS AN EXPERT TO TESTIFY TO HIS OWN OPINION BASED IN PART ON DATA FROM A NONTESTIFYING PERSON

The Confrontation Clause of the Sixth Amendment provides that “[i]n all criminal prosecutions, the accused shall enjoy the right * * * to be confronted with the witnesses against him.” U.S. Const. Amend. VI. Over the last two decades, the Court has reinterpreted the Confrontation Clause and, in several cases, considered its application to expert opinions. The Court has found a Confrontation Clause violation only when the prosecution has introduced an expert opinion without live testimony from the expert who reached it. Consistent with those precedents, an expert may testify to his own opinion based in part on data from a nontestifying person, so long as the trial court ensures both that an expert in the field would rely on such data and that the data (if testimonial) is not introduced for its truth. A contrary approach would unwarrantedly expand the Confrontation Clause and threaten the many prosecutions for common and serious crimes that rely on forensic evidence.

A. This Court Has Barred Introduction Of An Expert Opinion Under the Confrontation Clause Only When The Opining Expert Does Not Testify

In *Crawford v. Washington*, 541 U.S. 36 (2004), the Court held that the Confrontation Clause bars the introduction into evidence at a criminal trial of “testimonial

statements of a witness who did not appear at trial,” unless the witness is “unavailable to testify, and the defendant ha[s] had a prior opportunity for cross-examination.” *Id.* at 51, 53-54, 68. That prohibition “applies only to testimonial hearsay.” *Davis v. Washington*, 547 U.S. 813, 823-824 (2006). Hearsay involves “[o]ut-of-court statements * * * offered in evidence to prove the truth of the matter asserted,” *Anderson v. United States*, 417 U.S. 211, 219 (1974), and the Court has found statements to be testimonial if they have the “primary purpose of creating an out-of-court substitute for trial testimony.” *Michigan v. Bryant*, 562 U.S. 344, 358 (2011); see *Ohio v. Clark*, 576 U.S. 237, 244-245 (2015).

In *Melendez-Diaz v. Massachusetts*, 557 U.S. 305 (2009), the Court held that “certificates of analysis” stating that seized evidence “contain[ed] [c]ocaine” *id.* at 308 (citation omitted), that were created “sole[ly]” as evidence for criminal proceedings, were “testimonial” and could not be admitted as substantive evidence under the Confrontation Clause, unless the State produced a live witness at trial competent to testify to their truth, *id.* at 311-312 (emphasis omitted); see *id.* at 310-311. In *Bullcoming v. New Mexico*, 564 U.S. 647 (2011), the Court applied *Melendez-Diaz* to hold that the Confrontation Clause precluded the admission of an analyst’s signed forensic report certifying the procedures followed and results of a blood-alcohol test, when offered through the testimony of another scientist who “did not sign the certificate or personally perform or observe the performance of the test” and who had no “independent opinion” about its results. *Id.* at 657, 662 (citation omitted).

Most recently, in *Williams v. Illinois*, 567 U.S. 50 (2012), the Court considered whether a testifying expert could rely in part on a DNA profile produced by another laboratory. Specifically, the defendant in *Williams* argued that the expert violated the Confrontation Clause when she referred to the DNA profile provided by the other lab as having been produced from semen found on the victim’s vaginal swabs, despite having no personal knowledge that the profile came from those swabs. *Id.* at 71-72 (plurality opinion); *id.* at 124 (Kagan, J., dissenting). The Court determined that the testimony was permissible: a four-Justice plurality found that the testimony was not admitted for the truth of the matter asserted and that the out-of-court statement was nontestimonial, see *id.* at 64-86, while Justice Thomas concurred in the judgment on the ground that the out-of-court statement was nontestimonial, see *id.* at 103-118.

The plurality emphasized that the expert’s opinion was based on her independent comparison of two DNA profiles and that any statement by the expert that the DNA profile from the other lab came from the defendant was a “mere premise” that the expert “assumed * * * to be true when she gave her answer indicating that there was a match between the two DNA profiles.” *Williams*, 567 U.S. at 72. Because that premise was not “substantive evidence to establish where the DNA profiles came from,” it was not admitted for its truth—a limit under state law that the plurality “assume[d] that the trial judge understood” as the factfinder and complied with in rendering a verdict. *Id.* at 72-73. The plurality also independently reasoned that even if the other lab’s DNA report had been introduced for its truth, it

was not “testimonial” because the report’s “primary purpose * * * viewed objectively, was not to accuse [the] petitioner or to create evidence for use at trial,” but instead “to catch a dangerous rapist who was still at large.” *Id.* at 84.

Justice Thomas agreed with the plurality that the disputed lab report was nontestimonial, but for the separate reason that it lacked sufficient “formality and solemnity” because it was “neither a sworn nor a certified declaration of fact” similar to “an affidavit or deposition.” *Williams*, 567 U.S. at 103-104, 111 (citation omitted); see *id.* at 110-118.

B. The Federal Rules Limit Experts’ Opinion Testimony To Firsthand Conclusions Drawn From Facts Or Data, Admissible Or Otherwise, In A Manner Acceptable In Their Field

A longstanding and necessary feature of live expert testimony is the expert’s reliance on facts or data collected by others, be it learned treatises, outside studies, or a technician’s performance of a mechanical task. The Federal Rules of Evidence limit such reliance to what an expert in that field would deem acceptable and reliable. And the Federal Rules ensure that experts provide substantive testimony only as to their own conclusions and other firsthand knowledge—not to otherwise inadmissible hearsay.

1. Expert testimony is inevitably derived from sources beyond the expert’s firsthand knowledge

Since experts first began testifying at trial, their testimony has been treated differently from the testimony of fact witnesses. Unlike fact witnesses, the value of expert witnesses lies in the specialized knowledge that

they bring to bear in forming opinions and drawing inferences on relevant issues. See *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 597 (1993); see also Fed. R. Evid. 702-705. By drawing on their “scientific, technical, or other specialized knowledge,” experts provide a perspective that “rest[s] ‘upon an experience confessedly foreign in kind to [the jury’s] own.’” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 149 (1999) (citation omitted; brackets in original).

Precisely because they rely on uncommon expertise, it is necessarily the case that expert witnesses will rely “on the reported data of fellow-scientists, learned by perusing their reports in books and journals.” 1 John Henry Wigmore, *A Treatise on the System of Evidence in Trials at Common Law* § 665 at 762-763 (1904) (emphasis omitted). “No one professional man can know from personal observation more than a minute fraction of the data which he must every day treat as working truths.” *Id.* at 762. For example, in arriving at a medical opinion, a “professional physician” draws on his education and “professional experience,” which give him a “knowledge of the trustworthy authorities and the proper source of information.” *Id.* at 763. Courts “must and do[] accept this kind of knowledge from scientific men” because doing otherwise “would be to ignore the accepted methods of professional work and to insist on finical and impossible standards.” *Ibid.*

Early common law implicitly recognized that expert testimony—by its very nature—often would be based on information made known to the expert by others. In the “principal” case discussing party-retained expert testimony, *Folkes v. Chadd*, (1782) 99 Eng. Rep. 589 (K.B.) 591 n.(b), Lord Mansfield rejected the argument that an expert engineer’s opinion about the impact of

construction on a nearby harbor was insufficiently based in fact, where the opinion was “deduced” from “the situation of banks, the course of tides and of winds, and the shifting of sands.” *Id.* at 590; see John Barney, *The Trials of Wells Harbour* 18-19 (2000).

The expert had visited the harbor himself, but he based his deductions in large part on his study of the “history of the harbor” and the way it had been formed over time—presumably researched through the writings and reports of others. See Tal Golan, *Revisiting the History of Scientific Expert Testimony*, 73 *Brook. L. Rev.* 879, 892-893 (2008). Nonetheless, the court’s rationale for the testimony’s admission emphasized the expert’s “understand[ing] [of] the construction of harbours, the causes of their destruction, and how remedied.” *Folkes*, 99 *Eng. Rep.* at 590. And the court recognized that “[i]n matters of science no other witnesses can be called,” because the question at issue “depends on the evidence of those who understand such matters.” *Ibid.*

Another founding era case, *Thornton v. The Royal Exchange Assurance Co.*, (1790) 170 *Eng. Rep.* 70 (K.B.), rejected an objection to testimony from an “eminent shipbuild[ing]” expert who opined that a ship could be seaworthy based on “what appeared on [a] survey which had been made, but at which [the expert] was not present,” emphasizing that courts are frequently assisted by expert testimony “in causes of this nature.” *Id.* at 71. And in *Beckwith v. Sydebotham*, (1807) 170 *Eng. Rep.* 897 (K.B.), where the defendant sought to prove that a ship was unseaworthy by calling as witnesses “several eminent surveyors of ships who had never seen” the ship at issue. *Id.* at 897. Lord Chief Justice Ellenborough rejected an objection based in

part on the “*ex parte*” ship-survey evidence on which the experts relied. *Ibid.* He reasoned that the experts were “peculiarly acquainted” with “a matter of skill or science,” such that the “jury might be assisted” by their opinion. *Ibid.* He recognized that the “opinion [ultimately] might not go for much” if “the truth of the facts stated to [the experts] was not certainly known.” *Ibid.* But he emphasized that those weaknesses could be revealed on cross-examination, which could expose the possibility that the experts’ opinions were based on factual predicates that “might be false.” *Ibid.*

Some nineteenth-century American courts likewise allowed experts to opine based on otherwise inadmissible hearsay of the sort normally relied on by experts in that field, reasoning that objections to the testimony went to weight, rather than admissibility. See, *e.g.*, *Whitney v. Thacher*, 117 Mass. 523, 527 (1875) (merchandise brokers could testify to market value of goods “even though their knowledge was chiefly obtained from ‘daily price current lists and returns of sales daily furnished them’” because such “means of information” was “usually relied on by men engaged in business”); *Slocovich v. Orient Mut. Ins. Co.*, 14 N.E. 802, 805 (N.Y. 1888) (witness with “no personal knowledge of the vessel” could testify to its value based on knowledge he “derived from the reports, books, and records to which he referred” when such records “were commonly referred to by” others in the industry); see also *Finnegan v. Fall River Gas-Works Co.*, 34 N.E. 523, 523 (Mass. 1893) (Holmes, J.) (finding evidence, “whatever may be thought of its weight,” in doctor’s testimony “that the deceased had a period of conscious suffering before death,” although the doctor “had not had any experience of this kind of asphyxiation personally” in treating

patients, because he could testify as to his knowledge from a book that was “not itself admissible”); *State v. Wood*, 53 N.H. 484, 494-495 (1873) (similar); *Carter v. State*, 2 Ind. 617, 619 (1851) (similar).

Although permitting experts to testify on opinions informed by otherwise inadmissible hearsay was originally a minority approach in American jurisdictions, it ultimately prevailed in the adoption of the Federal Rules of Evidence, which many States have since copied. See 1 Kenneth S. Broun et al., *McCormick on Evidence* § 14, at 140-142 (Robert P. Mosteller ed., 8th ed. 2020). The objection to it was based not on confrontation concerns, but instead on the view that testimony founded on inadmissible hearsay did not adequately connect the expert’s opinion to the case at hand. See *id.* at 140. The Federal Rules, however, separate out the issue of the expert opinion’s relevance from the issue of the opinion’s basis. Rule 702 requires that the opinion “help the trier of fact,” while Rule 703 allows an expert to base the substance of his opinion on facts or data that he “has been made aware of” even when such facts or data are “not * * * admissible” in evidence. Fed. R. Evid. 703; see also Fed. R. Evid. 401, 402 (general rules on relevance).

As the original rules advisory committee observed, foreclosing experts from presenting opinions based in part on inadmissible hearsay would be out of step “with the practice of the experts themselves when not in court.” Fed. R. Evid. 703 advisory committee’s note (Proposed Rules) (1972 Notes). A practicing physician, for example, “makes life-and-death decisions in reliance” on “information from numerous sources and of considerable variety, including statements by patients and relatives, reports and opinions from nurses, technicians

and other doctors, hospital records, and X rays.” *Ibid.* Accordingly, “[h]is validation, expertly performed and subject to cross-examination, ought to suffice for judicial purposes.” *Ibid.*

2. *The Federal Rules ensure that experts’ opinion testimony is limited to their own methodologically sound conclusions*

The substantive testimony that an expert provides, however, is limited to the expert’s firsthand knowledge: his own conclusions and any facts or data of which he is personally aware. Under the Federal Rules of Evidence, “an expert may state an opinion—and give the reasons for it—without first testifying to the underlying facts or data.” Fed. R. Evid. 705. Any inadmissible facts or data come into play only as background for the expert’s opinion. And the opinion is itself admissible only if reliance on such facts or data is consistent with acceptable practice in the expert’s field.

The drafters of the Federal Rules were aware of, and expressly addressed, the “fear[] that enlargement of permissible data” on which an expert may rely could “tend to break down the rules of exclusion unduly.” 1972 Notes. To address that concern, the Federal Rules specifically require that presumptively inadmissible “facts or data” on which an expert relies in forming an opinion “be of a type reasonably relied upon by experts in the particular field.” *Ibid.* (citation omitted); see Fed. R. Evid. 703 (similar language in modern rule). The Rules add other safeguards as well: an expert’s testimony must also be based on “sufficient facts or data”; be the “product of reliable principles and methods”; reliably apply the “principles and methods to the facts of

the case”; and, of course, “help the trier of fact to understand the evidence or to determine a fact in issue.” Fed. R. Evid. 702.

Thus, in order to introduce expert testimony, the proponent must establish that (1) the expert has reached an independent opinion using his own knowledge and expertise; (2) the methods and data on which the expert’s opinion is based are of the sort considered reliable in his field; and (3) the expert’s opinion is connected and relevant to the case. See *Daubert*, 509 U.S. at 589-594. As this Court recognized in *Daubert v. Merrill Dow Pharmaceutical*, the trial judge has a critical “gatekeeping” role in assuring that those requirements are satisfied. *Id.* at 597. *Daubert* makes clear that, before an expert can provide his opinion in a federal trial, the trial judge must find that the opinion “rests on a reliable foundation and is relevant to the task at hand.” *Ibid.* When the issue is not forfeited or conceded, that will necessitate a pretrial evaluation of the opinion and its bases.

The trial judge assesses the reliability of the principles and methods the expert employs, as well as whether the facts and data are sufficient to support the opinion. *Daubert*, 509 U.S. at 593-594. The judge must further determine the “fit” of the proposed testimony to the “facts of the case.” *Id.* at 591 (citation omitted). The question is not simply the “reasonableness in general” of the expert’s approach, but “the reasonableness of using such an approach * * * to draw a conclusion regarding the particular matter to which the expert testimony was directly relevant” in the case. *Kumho Tire*, 526 U.S. at 153-154 (emphases omitted). Only if the judge is satisfied that the expert’s opinion is adequately connected to the case and grounded in the expert’s own knowledge and experience, based on the type of facts or

data on which experts in the field could reasonably rely, may that testimony be presented to the jury. See *Daubert*, 597 U.S. at 593-594.

C. The Federal Rules Comport With The Confrontation Clause By Ensuring That Any Disclosure Of Otherwise Inadmissible Facts Or Data Underlying An Expert's Opinion Are Not Presented For Their Truth

While the trial judge in a *Daubert* hearing must hear about and assess all of the facts and data underlying the expert's opinion to ensure that they are sufficient, connected to the case, and filtered through reliable principles and methods, the role of a jury at trial is different. As noted above, the expert can testify to a firsthand opinion "without first testifying to the underlying facts or data." Fed. R. Evid. 705. And to the extent that such data are introduced, it is solely for the limited purpose of allowing the jury to understand how the expert reached the opinion—not for the data's independent truth.

1. The Federal Rules are designed so that any otherwise inadmissible facts or data that might inform an expert's opinion are "admissible only for the purpose of assisting the jury in evaluating [that] opinion," Fed. R. Evid. 703 advisory committee's note (2000 Amendment) (2000 Notes), not for proving that the facts or data are themselves true. It is impermissible for the proponent of an expert opinion to "disclose * * * to the jury" the "facts or data" that form a premise for an opinion if the information would otherwise be inadmissible unless the trial court first determines that their probative value "in helping the jury evaluate the opinion" substantially outweighs their prejudicial effect. Fed. R. Evid. 703. And if a federal court permits such underlying facts or data to be disclosed, the Rules anticipate that the court

will “give a limiting instruction upon request, informing the jury that the underlying information must *not* be used for substantive purposes.” 2000 Notes (emphasis added); see Fed. R. Evid. 105 (general rule on limiting instructions).

As this Court has repeatedly recognized, when a jury is properly instructed not to accept statements for their truth, “the almost invariable assumption of the law [is] that jurors follow their instructions.” *Richardson v. Marsh*, 481 U.S. 200, 206 (1987); see *id.* at 206-207 (citing cases). That presumption applies in criminal cases, even in “situations with potentially life-and-death stakes for defendants,” and even with respect to statements that are “some of the most compelling evidence of guilt available to a jury.” *Samia v. United States*, 599 U.S. 635, 646-647 (2023). “The presumption credits jurors by refusing to assume that they are either ‘too ignorant to comprehend, or were too unmindful of their duty to respect, instructions’ of the court.” *Id.* at 647 (quoting *Pennsylvania Co. v. Roy*, 102 U.S. 451, 459 (1880)).

The Court has created an exception to the otherwise-invariable presumption that juries follow their instructions in only one circumstance: the scenario presented in *Bruton v. United States*, 391 U.S. 123 (1968), where a defendant is incriminated by the extrajudicial statements of a nontestifying codefendant. See *Gray v. Maryland*, 523 U.S. 185, 192 (1998). Even in that circumstance, however, “the Court’s precedents distinguish between confessions that directly implicate a defendant and those that do so indirectly,” and the Court has declined to extend the exception “beyond those confessions that occupy the former category.” *Samia*, 599 U.S. at 652. The *Bruton* exception has no application to

expert testimony, which is different in kind from a co-defendant's confession, "not incriminating on its face," and in need of a "link[] with [other] evidence" to infer guilt. *Richardson*, 481 U.S. at 208; see *Samia*, 599 U.S. at 653. There is thus no "overwhelming probability," *Richardson*, 481 U.S. at 208, that juries will be unable to follow a proper limiting instruction.

2. Petitioner resists the approach to expert testimony in the Federal Rules of Evidence, contending (Br. 33) that "an out-of-court statement introduced to explain the basis of an expert's opinion is useful only insofar as it is true, and thus is necessarily offered for its truth." That assertion misconceives the nature of the expert's opinion testimony and its relationship to the overall case.

When an expert provides an opinion consistent with *Daubert*, he is testifying based on facts or data from others only to the extent that an expert in the field would reliably do so. And an expert is rarely an island unto himself. The expert opinions in *Daubert*, for example, were based on studies conducted by numerous other people who did not themselves testify, see 509 U.S. at 582-583, but the Court nonetheless accepted that reliance on such studies could be an acceptable methodology in that field, *id.* at 597-598. Similarly, as the original federal advisory committee recognized, the radiologist who makes a diagnosis from an X-ray may rarely be the person who took the X-ray; instead, he relies on the output of the X-ray technician. See 1972 Notes. Even if some tasks are sufficiently complex, judgment-based, or equivalent to the opinion itself that an expert could not reasonably outsource them, cf. *Williams*, 567 U.S. at 107-110 (Thomas, J., concurring in the judgment), 125-133 (Kagan, J., dissenting), there

are many other more or less routinized tasks that may be performed by assistants or colleagues.

For example, when a physician testifies to a diagnosis based on an MRI exam performed by a hospital technician, the physician is not presenting the MRI exam itself for its truth. The jury would not even understand the MRI exam's results. What the physician is presenting is his expert diagnosis, which he based in part on the MRI exam. The *Daubert* inquiry, in turn, ensures that reliance on a technician's MRI exam is a sufficiently acceptable methodological foundation for that expert diagnosis. If the court determines that it is, the physician can then testify to the diagnosis without even mentioning the MRI exam; what matters substantively is that he presents his expert opinion, based on an acceptable and presumptively reliable methodology, not that the jury hears that he based that opinion in part on an MRI exam.

The MRI exam might nonetheless be otherwise introduced, by one party or the other, for a matter to which it could be relevant, such as to reinforce the chain of custody (*i.e.*, that it was an MRI exam of the relevant person) or to give the jury more—or less—confidence in the expert's opinion by exposing the bases on which it rests. While the chain of custody within a laboratory can typically be established by the expert's personal knowledge of its governing procedures—see Fed. R. Evid. 406 (“Evidence of * * * an organization's routine practice may be admitted to prove that on a particular occasion [it] acted in accordance with [that] practice.”); *Melendez-Diaz*, 557 U.S. at 329 n.14 (preserving traditional role of “circumstantial evidence”)—the custody evidence may be considerably stronger if the MRI technician testifies. Similarly, the overall probative force of

the physician’s conclusion could be either bolstered or called into question based on the calibration of the MRI machine.

But the Court has emphasized that “it is not the case” that “anyone whose testimony may be relevant in establishing the chain of custody, authenticity of the sample, or accuracy of the testing device, must appear in person as part of the prosecution’s case.” *Melendez-Diaz*, 557 U.S. at 311 n.1; see *Bullcoming*, 564 U.S. at 656 n.2. Instead, such “gaps * * * normally go to the weight of the evidence rather than its admissibility.” *Melendez-Diaz*, 557 U.S. at 311 n.1 (citation omitted). That is because the Confrontation Clause “is a procedural rather than a substantive guarantee.” *Crawford*, 541 U.S. at 61. And in the case of expert testimony under the Federal Rules, the substantive evidence against the defendant—the expert’s opinion—is presented through live testimony of the expert, subject to cross-examination.

3. Not only are the underlying facts and data, if introduced at all, not admitted for the truth of the matter asserted, but they may in some cases not even be the sort of evidence to which the Confrontation Clause applies. As noted above, the Clause applies only to “testimonial hearsay,” which the Court has thus far limited to statements whose “primary purpose * * * is to establish or prove past events potentially relevant to later criminal prosecution.” *Davis*, 547 U.S. at 822; see, e.g., *Bryant*, 562 U.S. at 356; *Ohio*, 576 U.S. at 250-251.

Consistent with that definition, the Court excluded the analysts’ statements in *Melendez-Diaz* and *Bullcoming* because their “sole purpose” was to provide “prima facie evidence” in criminal proceedings. *Melendez-*

Diaz, 557 U.S. at 311 (citation omitted); see *Bullcoming*, 564 U.S. at 664 (explaining that laboratory report there “resemble[d]” the affidavit considered in *Melendez-Diaz* “[i]n all material respects”). Justice Thomas separately found that the documents at issue in *Melendez-Diaz* were “‘formalized testimonial materials’” that “‘fall within the core class of testimonial statements’ governed by the Confrontation Clause.” *Melendez-Diaz*, 557 U.S. at 329-330 (Thomas, J., concurring) (citations omitted).

But not all forensic data will have those characteristics. See *Williams*, 567 U.S. at 84-86 (plurality opinion). A particular lab technician might, for example, act with the purpose of accurately recording the reading of a machine, without regard to the data’s use. Cf., e.g., *United States v. Moon*, 512 F.3d 359, 362 (7th Cir.), cert. denied, 555 U.S. 812 (2008); *United States v. Washington*, 498 F.3d 225, 229-230 (4th Cir. 2007), cert. denied, 557 U.S. 934 (2009). “When the work of a lab is divided up,” as is frequently the case in forensic analysis, “it is likely that the sole purpose of each technician is simply to perform his or her task in accordance with accepted procedures.” *Williams*, 567 U.S. at 85 (plurality opinion). Much of the forensic testing that labs undertake may never be used in prosecutions at all, and some testing may also be completed for the purpose of assisting in emergency situations. See *Bryant*, 562 U.S. at 358 (statement responding to “‘ongoing emergency’” not “‘within the scope of the [Confrontation] Clause’”). Furthermore, the results of forensic analysis will frequently lack the “formality and solemnity” of the materials to which the Confrontation Clause was originally directed, *id.* at 378-379 (Thomas, J., concurring in the

judgment), such as when they are recorded only in notes rather than signed attestations.

D. Petitioner’s Argument Invites An Unwarranted Extension Of The Confrontation Clause To A High Percentage Of Forensic Testimony

The potential implications of petitioner’s argument in this case extend well beyond the “substitute expert[s],” Pet. i, to which it is purportedly limited. Both substitute and non-substitute experts often do the same thing: the radiologist who reads the X-ray shortly after it is taken is relying just as much on the X-ray technician as the radiologist who later reads the same X-ray to form an independent opinion and testify at trial if the first radiologist becomes unavailable. Likewise, any analyst who at any time “compares the electropherograms and profiles from the crime-scene DNA to the defendant’s DNA” may rely on steps carried out by as many as 12 technicians. See *Williams*, 567 U.S. 103 (appendix to opinion of Breyer, J.). Thus, taken to its logical conclusion, petitioner’s argument that an expert cannot rely on the work of others who do not testify could require an unprecedented, unsound, and highly debilitating extension of this Court’s Confrontation Clause jurisprudence.

1. A simple drug analysis, for example, involves a gas-chromatograph/mass-spectrometer (GC-MS) test as one part of the procedure. See, e.g., Office of Forensic Scis., Drug Enforcement Admin., *SOP-METH-001: Standard Operating Procedure for the Analysis of Suspected Methamphetamine* (posted Aug. 2, 2023), https://www.dea.gov/sites/default/files/2023-08/SOP-METH-001_Rev3_1.pdf. A person performing that step dissolves a small portion of the substance in a solvent and

injects it into the machine. *Id.* at 3. The gas chromatograph separates the various compounds within the substance and generates a graph charting the times at which each compound was separated from the whole. See Tara M. Lovestead, Nat'l Inst. of Standards & Tech., *Gas Chromatography* 2-3 (Dec. 4, 2019), https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=926381. The time it takes a compound to move through the machinery informs an expert of the compound's chemical properties. *Id.* at 4.

Each separated substance of the sample is then sent through the mass spectrometer where it is bombarded with electrons, causing the substance to fragment in particular patterns—again revealed on a graph. See Tara M. Lovestead, et al., Nat'l Inst. of Standards & Tech., *Gas Chromatograph – Mass Spectrometry (GC-MS)* 2 (Dec. 4, 2019), https://tsapps.nist.gov/publication/get_pdf.cfm?pub_id=926655. Because the molecules of a substance will fragment in an identical way unique to that substance every time they are placed in that environment, an analyst will be able to determine the identity of the substance by comparing the graph output with a graph produced from verified samples of controlled substances—known as “reference material”—that are generally provided by an outside laboratory. See Office of Forensic Scis., Drug Enforcement Admin., *Summary of Validated Qualitative Methods* (Dec. 7, 2022), <https://www.dea.gov/sites/default/files/2022-12/DEA%20SF%20Validated%20Qualitative%20Methods%20Summary.pdf>.

The analyst may be the same person who operated the GC-MS machine, but in many cases may not. Even when the analyst is the person who operated the machine, the analyst may not be the same person who calibrated the machine or produced the reference material

(which is available through the DEA or a licensed commercial provider). Similarly, the analyst may not compare the graphs the moment after they are produced, or even be the first analyst to rely on the graphs to form an opinion about the identity of the tested substance. But a forensic analyst need not produce the reference material, calibrate the machine, physically inject the substance into the machine, or be present at the moment the machine generates the graphs in order to offer an independent opinion on the identity of the tested substance.

Instead, a *Daubert* hearing on the expert's testimony could allow the prosecution to establish that a member of the relevant scientific community would rely on the results of a GC-MS test even if he did not complete the test himself. Many courts have recognized an expert can permissibly compare the graphs generated by an unknown substance with graphs generated by reference material and offer his own opinion based on his scientific background, his knowledge of testing procedures and laboratory protocols, and his experience interpreting such results. See, e.g., *United States v. Maxwell*, 724 F.3d 724, 727 (7th Cir. 2013); *United States v. Hernandez*, 479 Fed. Appx. 636, 641-642 (5th Cir. 2012) (per curiam); *United States v. Katso*, 74 M.J. 273, 283-284 (C.A.A.F. 2015), cert. denied, 578 U.S. 905 (2016).

The prosecution would also be required to establish that the expert's testimony is a fit for the case, which may require inquiry into the chain of custody both before and after the tested sample reached the laboratory. See Fed. R. Evid. 401, 402, 702(a). As noted above, the evidence at such a *Daubert* hearing could include testimony regarding the laboratory's general practices and

procedures for handling samples when they are received. Such testimony, whether provided by the testifying expert or someone else, would provide circumstantial evidence that “on a particular occasion” the lab “acted in accordance” with that “routine practice.” Fed. R. Evid. 406; see *Melendez-Diaz*, 557 U.S. at 329 n.14 (“Today’s opinion, while insisting upon retention of the confrontation requirement, in no way alters the type of evidence (including circumstantial evidence) sufficient to sustain a conviction.”).

The expert’s *Daubert*-qualified testimony to the jury would then include the expert’s ultimate conclusion that the substance tested was a controlled substance and may also provide evidence establishing that the substance tested was connected to the defendant. The expert’s direct testimony may, or may not, include the machine output itself, or the fact that such output even exists. Any introduction, or even mention, of that data on direct examination would need to be substantially more probative than prejudicial. See Fed. R. Evid. 703. And if the data are introduced or mentioned, the defendant would be entitled to a jury instruction foreclosing consideration of that data—which would be inherently meaningless to a lay jury—for the truth of the matter asserted. See 2000 Notes.

An expert’s bare opinion, though admissible under the Federal Rules, see Fed. R. Evid. 705, may be subject to considerable attack by the defendant, undermining its persuasive value to a jury that must find the presence of a controlled substance beyond a reasonable doubt. And the defense, which is always entitled to introduce the bases for the expert’s opinion in cross-examination, see *ibid.*, could challenge the reliability of

those bases to the jury, pointing out the potential weakness of the inferences that the prosecution would be requiring the jury to draw. To the extent that the defense may wish to demonstrate the specific unreliability of a particular step in the procedure, it may (among other potential options) subpoena the relevant technician. See Fed. R. Crim. P. 16(a)(1)(G)(iii) (requiring pretrial disclosure of expert witness opinions and “the bases and reasons for them”); Fed. R. Crim. P. 17 (detailing subpoena procedures, including for indigent defendants); *Williams*, 567 U.S. at 59 (plurality opinion).

Accordingly, for example, the prosecution relies on circumstantial evidence of typical procedures, without also presenting direct evidence from the laboratory technicians who ran the machines, the defense can urge the jury to find that the prosecution has not proved beyond a reasonable doubt that the testing in fact established what the expert claims. But that is a question of weight, not a question of confrontation.

2. If the Court were to “abandon[] the traditional rule” allowing experts to testify based on data generated by other laboratory technicians, there may be “no logical stopping place between requiring the prosecution to call as a witness one of the laboratory experts who worked on the matter and requiring the prosecution to call *all* of the laboratory experts who did so.” *Williams*, 567 U.S. 89 (Breyer, J., concurring). That, in turn, would have highly destabilizing consequences for the prosecution of not only drug crimes, but other types of crimes—like rape or murder—that commonly rely on forensic evidence.

For example, when the FBI’s forensic lab processes DNA evidence, there are five separate steps, including collection, extraction, quantitation, amplification, and

separation. See, *e.g.*, Human Forensic Biology Subcomm., Org. of Scientific Area Comms. for Forensic Sci., *Human Forensic DNA Analysis (Current Practice)* (May 5, 2022), https://www.nist.gov/system/files/documents/2022/05/05/OSAC%20Forensic%20Biology%20Process%20Map_5.5.22.pdf. The FBI has informed this Office that often, a different biologist performs each step, with each biologist keeping detailed documentation of her work and the results. Many state laboratories may do the same.

If petitioner's approach were adopted, nothing would stop defendants in every rape or murder case that includes DNA testimony from asserting their right to a jury trial and arguing that testimony from each and every one of the technicians is required. The outsized potential for such assertions to impede many prosecutions undercuts this Court's assumption in previous cases, see, *e.g.*, *Bullcoming*, 564 U.S. at 667, that defendants will plead guilty or stipulate to expert results notwithstanding a Confrontation Clause claim. And although petitioner asserts (Pet. Br. 43-44) that his approach has unproblematically been applied in California and New York, those States appear to continue to permit experts to testify based on lab work completed by others. See *People v. Pushkarow*, No. A148092, 2019 WL 1253659, at *4-*6 (Cal. Ct. App. Mar. 19, 2019); *People v. John*, 52 N.E.3d 1114, 1127 (N.Y. 2016).

Even beyond the deleterious effect on rape, murder, and other cases that rely on forensic evidence, requiring testimony from every technician would impede their development of evidence necessary to identify and prosecute other criminals. Petitioner's approach would also introduce similar difficulties for other types of forensic evidence—like autopsies, fingerprinting, or drug-

identification evidence—at issue in many criminal trials. Although those types of forensic testing may involve fewer steps and fewer people than DNA testing, petitioner’s approach could well open the door to challenges based on the absence of a live witness on routine calibration techniques or the production of reference material.

The Court’s Confrontation Clause precedents have been careful to avoid such widespread impediment and destabilization. See *Melendez-Diaz*, 557 U.S. at 311 n.1; *Bullcoming*, 564 U.S. at 656 n.2. The Court should not invite those results now.

3. Even if limited to “substitute” experts, petitioner’s position would remain unprecedented and problematic. As a practical matter, there are a number of circumstances in which an analyst may analyze forensic data but be unavailable to testify at a subsequent trial. Years may elapse between forensic testing and an eventual prosecution, during which time analysts may change jobs. And even if the analyst is still employed at the laboratory, she may receive simultaneous subpoenas in multiple jurisdictions or be on leave.

In some instances, it may be impossible for a different forensic expert to retest the evidence. See, e.g., *Williams*, 567 U.S. at 98 (Breyer, J. concurring) (discussing autopsies). For some evidence, the storage, processing, or passage of time adversely affects the evidence. For example, a blood sample degrades over time, changing the drug or alcohol concentrations. See, e.g., Xiaoqin Shan, et al., *A study of blood alcohol stability in forensic antemortem blood samples*, 211 *Forensic Sci. Int’l* 47 (2011). Trace DNA from a crime scene likewise degrades over time and if low quantities are collected, it cannot be retested because the prior testing consumes

too much of the sample. See Nat'l Inst. of Justice, Dep't of Justice, *Persistence of Touch DNA for Analysis* (June 5, 2023), <https://nij.ojp.gov/topics/articles/persistence-touch-dna-analysis>. And the process of extracting fingerprints from an item cannot be repeated, leaving only photographs for comparison. See Nat'l Inst. of Justice, Dep't of Justice, *Fingerprints: An Overview* (Mar. 27, 2013), <https://nij.ojp.gov/topics/articles/fingerprints-overview>.

II. THE COURT CAN AND SHOULD VACATE AND RE-MAND FOR FURTHER PROCEEDINGS WITHOUT UN-DUE EXPANSION OF THE CONFRONTATION CLAUSE

Although it is permissible for a testifying forensic expert to rely on data from someone else's performance of discrete and circumscribed tasks, Longoni's testimony here lacked safeguards and requires more scrutiny in the state courts.

The Arizona Rules of Evidence appear to track the Federal Rules in relevant respects. See Ariz. R. Evid. 702-705. It is accordingly possible in Arizona courts for an expert to offer drug-identification evidence in the manner described above. And much of Longoni's testimony was of the form that the Confrontation Clause allows. He described the procedures and safeguards that employees of the laboratory follow in handling substances submitted for analysis, and he explained how the laboratory uses color tests and GC-MS to yield data from which a forensic expert can determine the substance's identity. Pet. App. 31a-39a. He also purported to provide an "independent opinion" as to what each of the substances recovered from petitioner were, based on his "knowledge and training as a forensic scientist, [his] knowledge and experience with [the lab's] policies, practices, procedures, [his] knowledge of chemistry, the

lab notes, the intake records, the chemicals used, [and] the tests done.” *Id.* at 46a; see *id.* at 47a-49a.

But Longoni’s testimony may not have been truly independent, as he appeared to read aloud the types of lab tests that Rast performed and recite her ultimate conclusions as to the identity of the tested items. Pet. App. 46a-49a. That testimony may well have conveyed to the jury that the opinion he offered was not based on his own analysis. Longoni also offered substantive testimony, based on Rast’s notes, that Rast followed standard procedures in performing the laboratory tests on the items. *Id.* at 40a, 42a, 47a-48a. In doing so, Longoni put before the jury Rast’s out-of-court statements that she had followed those procedures—matters about which Longoni had no firsthand knowledge. Nor did the trial court provide an instruction limiting the purposes for which testimony beyond Longoni’s firsthand knowledge could be considered.

Accordingly, there may well be a “danger of the jury’s taking [Longoni’s] testimony as proof” that Rast complied with lab procedures, or even that the tests themselves were valid. *Williams*, 567 U.S. at 72 (plurality opinion); see *ibid.* (“Absent an evaluation of the risk of juror confusion and careful jury instructions, the testimony could not have gone to the jury”). But whether Longoni’s testimony in fact invited such impermissible inferences, whether any out-of-court statements implicated by that testimony are nontestimonial, and whether the State has preserved any arguments to those effects are record-specific issues best considered on remand. A remand would also allow the state courts to consider whether any Confrontation Clause error was harmless. See *Bullcoming*, 564 U.S. at 668 & n.11; *Melendez-Diaz*, 557 U.S. at 329 & n.14. The Court thus

can—and should—order such a remand without calling into question the standard evidentiary procedures governing expert testimony employed in federal and many state courts.

CONCLUSION

The judgment of the court of appeals should be vacated.

Respectfully submitted.

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Fed. R. Evid. 705	2a

APPENDIX

1. U.S. Const., Amend. VI provides:

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

2. Fed. R. Evid. 702* provides:

Testimony by Expert Witnesses

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 the proponent demonstrates to the court that it is more likely than not that:

- (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;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and

* Text reflects amendments effective December 1, 2023.

(d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.

3. Fed. R. Evid. 703 provides:

Bases of an Expert's Opinion Testimony

An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted. But if the facts or data would otherwise be inadmissible, the proponent of the opinion may disclose them to the jury only if their probative value in helping the jury evaluate the opinion substantially outweighs their prejudicial effect.

4. Fed. R. Evid. 705 provides:

Disclosing the Facts or Data Underlying an Expert's Opinion

Unless the court orders otherwise, an expert may state an opinion—and give the reasons for it—without first testifying to the underlying facts or data. But the expert may be required to disclose those facts or data on cross-examination.