SOPHIE BLONDEAU *v.* MICHAEL BALTIERRA (SC 20282)

Robinson, C. J., and Palmer, McDonald, D'Auria, Mullins, Kahn and Ecker, Js.*

Syllabus

The plaintiff sought to vacate, and the defendant sought to confirm, an arbitration award dividing the parties' equity in their marital home and allocating various child support expenses in connection with the parties' marital dissolution. The parties, who were married in France, had entered into a premarital agreement that "designate[d], as the law to be applicable to their matrimonial regime, the French law . . . ." That agreement also provided that, in the event of divorce, each party's separate property would remain the separate property of its owner, and that any property acquired in both parties' names was presumed to belong to them jointly, in the absence of proof to the contrary. While married, the parties purchased their marital home in Westport, Connecticut. The plaintiff provided most of the down payment using funds her father had given her, but the parties took title to the home jointly, and the defendant made all of the mortgage, tax, and insurance payments. The plaintiff thereafter commenced the present action to dissolve the marriage. Both parties sought to enforce the premarital agreement, and the trial court approved their agreement to submit the matter to arbitration. The arbitration agreement contained a choice of law provision providing that substantive issues would be governed by Connecticut law but that the arbitrator shall apply the French Civil Code "with regard to any claim by the parties that the [a]rbitrator either vacate [the] premarital agreement or effectuate [the] premarital agreement and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code." The arbitrator issued a written award, finding that, pursuant to the premarital agreement, the marital home constituted joint property because it was acquired in both parties' names and neither party had presented evidence to rebut the presumption of joint ownership. The arbitrator also determined that the choice of law provision in the premarital agreement designating French law as the law applicable to the parties' "matrimonial regime" did not govern the distribution of joint property in the event of divorce. Instead, the arbitrator determined that Connecticut law, under which joint assets may be divided equitably in the discretion of the tribunal, rather than French law, under which a party recovers his or her contribution to the joint asset, governed the distribution of the equity in the home. Explaining that the award reflected the parties'

* The listing of justices reflects their seniority status on this court as of the date of oral argument.

respective contributions to the home and protected the defendant from the vagaries of the real estate market, the arbitrator awarded the marital home to the plaintiff but ordered that she pay the defendant $212,000 for his share of the equity. The arbitrator also issued orders regarding the payment of child support, as well as other expenses related to the care of the parties' children. The trial court denied the defendant's application to confirm the arbitration award and granted the plaintiff's motion to vacate the award, concluding that the arbitrator had exceeded her authority under the arbitration agreement and manifestly disregarded the law by ignoring the clear choice of law provisions in the premarital agreement and by dividing the equity in the marital home pursuant to Connecticut law rather than French law. The trial court also concluded that the arbitration award improperly included issues relating to child support. On the defendant's appeal, *held*:

1. There was no merit to the plaintiff's claim that this court lacked appellate jurisdiction on the ground that there was no final judgment from which to appeal insofar as the statute (§ 52-423) providing a right of appeal from an order vacating an arbitration award is inapplicable to arbitration awards that include issues related to child support; § 52-423 expressly confers on parties the right to appeal from orders related to the judicial enforcement of arbitration awards, the fact that the arbitration at issue involved a marital dissolution was of no consequence, and the statute (§ 46b-66 (c)) limiting the applicability of § 52-423 with respect to orders vacating or confirming an arbitration award that include issues related to child support did not place a categorical condition on a party's right to appeal from such orders but, rather, limited the enforceable scope of the arbitration agreement and award.
2. The defendant could not prevail on his claim that the trial court lacked subject matter jurisdiction to consider the plaintiff's motion to vacate on the ground that the plaintiff failed to identify a factual basis for that motion within the statutory (§ 52-420 (b)) limitation period; the defendant conceded that the plaintiff filed the motion within the limitation period specified in § 52-420 (b), and, although the plaintiff's motion did not articulate a specific factual basis for vacating the award, nothing in § 52-420 requires the movant to set forth the factual basis for his or her motion.
3. The defendant could not prevail on his claim that the trial court lacked subject matter jurisdiction to consider the plaintiff's arguments in her motion to vacate pertaining to child support on the grounds that the plaintiff was not aggrieved by that portion of the award and that the issue of child support had been rendered moot by the parties' pendente lite stipulations addressing that issue: the plain language of the statute (§ 52-418 (a)) authorizing the court to vacate an arbitration award expressly confers on any party to the litigation the right to move to vacate the award, regardless of whether the party is aggrieved by that award, and this court declined to import the requirement of aggrievement into the statute; moreover, the fact that the parties had entered into

pendente lite stipulations regarding the issue of child support did not render that issue moot, as pendente lite orders are not permanent but terminate with the conclusion of litigation, and, accordingly, the court was still obligated to make a final child support determination.

4. The trial court incorrectly concluded that the arbitrator's award exceeded the scope of the parties' submission; the issue on appeal was not whether the arbitrator resolved the issues presented correctly but simply whether the issues had been submitted to the arbitrator to decide, which they clearly had been; moreover, in light of the arbitrator's having clearly fulfilled her obligation to interpret and to apply the arbitration agreement, this court would not substitute its own interpretation for that of the arbitrator.
5. The trial court incorrectly concluded that the arbitrator manifestly disregarded the choice of law provision in the premarital agreement by distributing the equity in the marital home in accordance with Connecticut law; in light of the ambiguities in the premarital agreement, which declared that French law governed the parties' "matrimonial regime" without defining that term, and which provided for the distribution upon divorce of separate property and property for which ownership could not be established but not for the distribution of joint property, this court could not conclude that any error that the arbitrator may have made in distributing the equity in the marital home amounted to an egregious or patently irrational rejection of clearly controlling legal principles that would permit a court to vacate the arbitration award under the highly deferential standard governing the manifest disregard of law inquiry.
6. The trial court correctly determined that the arbitrator's award included issues related to child support in violation of § 46b-66 (c) and the statute (§ 52-408) generally governing agreements to arbitrate, but this court concluded that the portion of the award related to the health care, childcare, and extracurricular activity expenses of the parties' children was severable from the remainder of the award: in light of the well established purpose of the child support statutes to protect the rights of children who are not parties to the dissolution matter, this court concluded that a party cannot waive the statutory prohibition against the arbitration of issues related to child support, as that issue is reserved for the trial court, which must by law consider the child support guidelines; accordingly, this court remanded the case with direction to render judgment granting the plaintiff's motion to vacate the arbitration award insofar as it included orders related to child support but denying the motion to vacate the award in all other respects, and denying the application to confirm that portion of the arbitration award relating to child support but granting the application to confirm the award in all other respects.

Argued January 21—officially released September 24, 2020**

** September 24, 2020, the date that this decision was released as a slip opinion, is the operative date for all substantive and procedural purposes.

Procedural History

Action for the dissolution of a marriage, and for other relief, brought to the Superior Court in the judicial district of Stamford-Norwalk, where the court, *Colin*, *J.*, approved the parties' agreement to engage in arbitration; thereafter, the defendant filed an application to confirm the arbitration award, and the plaintiff filed a motion to vacate the arbitration award; subsequently, the case was tried to the court, *Heller*, *J.*; judgment denying the defendant's application to confirm and granting the plaintiff's motion to vacate, from which the defendant appealed. *Reversed in part*; *judgment directed.*

Peter J. Zarella, with whom, on the brief, was *Gary I. Cohen*, for the appellant (defendant).

Scott T. Garosshen, with whom were *Kenneth J. Bartschi* and, on the brief, *Michael T. Meehan*, for the plaintiff (appellee).

Opinion

ECKER, J. This appeal requires the resolution of a series of jurisdictional and merits related issues arising from the arbitration of a marital dissolution action involving an unusual choice of law provision contained in the parties' arbitration agreement. The dispute focuses primarily on the validity of the arbitrator's award dividing the equity in the parties' marital home and assigning responsibility for certain expenses related to child support. The defendant, Michael Baltierra, appeals from the judgment of the trial court granting the motion of the plaintiff, Sophie Blondeau, to vacate the arbitration award and denying the defendant's corresponding application to confirm the award. The trial court's decision rests on its determination that (1) the arbitrator exceeded her authority under the arbitration agreement by dividing the equity in the marital home under Connecticut law rather than French law, as prescribed by

the parties' premarital agreement, (2) the arbitrator, for the same reasons, also manifestly disregarded the law controlling her decision making, and (3) the award improperly included issues related to child support. We conclude that the arbitrator did not exceed her authority under the arbitration agreement or manifestly disregard the law, but we agree with the trial court that the inclusion of issues related to child support in the award was improper. Accordingly, we reverse in part the judgment of the trial court.

The following facts and procedural history are relevant to the issues on appeal. The plaintiff and the defendant were married on June 23, 1999, in Paris, France. The parties executed a premarital agreement providing in relevant part that "the future spouses . . . designate, as the law to be applicable to their matrimonial regime, the French law, as being the law of the state of the wife's nationality. . . . The [f]uture [s]pouses declare that they are adopting as the basis for their union the regime of the separation of property, as such is established by Articles 1536 to 1543 of the [French] Civil Code . . . ." The premarital agreement also provided that "[e]ach one of the spouses shall establish the ownership of his or her property by all means of proof provided by the [l]aw. However, unless there is legal proof to the contrary . . . [r]eal property and business assets shall be presumed to belong to the one of the spouses in whose name the acquisition is made, and to both, if the acquisition is made in both of their names."[1]

The plaintiff and the defendant had three children during their marriage. In 2008, the parties purchased a home in Westport with title held jointly in both of their names. The plaintiff commenced the present action

[1] All references in this opinion to the premarital agreement are to the certified English translation of the agreement provided by the plaintiff. The accuracy of this translation is uncontested.

to dissolve the marriage in January, 2016. Both parties sought to enforce the premarital agreement. On August 31, 2017, the parties executed a binding agreement to arbitrate the dissolution action, which the trial court approved. The parties agreed to appoint a retired judge of the Superior Court, Lynda B. Munro, as the arbitrator. Among its provisions, the arbitration agreement provided: "The parties agree to be guided by the laws . . . of Connecticut during the arbitration process and with respect to the substantive issues submitted for resolution by the [a]rbitrator, except that the [a]rbitrator shall be guided by the French Civil Code with regard to any claim by the parties that the [a]rbitrator either vacate their premarital agreement or effectuate their premarital agreement and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code." The arbitration agreement further provided: "The parties shall arbitrate the dissolution of marriage action, including, but not limited to issues of . . . property division for both assets and liabilities, [and] . . . determine the validity and effectuation of the parties' premarital agreement; and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code . . . ."

After arbitration hearings, the arbitrator issued the written arbitration award. As we discuss in greater detail later in this opinion, the arbitrator's award designated the parties' Westport home as joint property and then applied Connecticut law to determine how the equity in the home would be distributed between the parties. See part III A of this opinion. The arbitrator awarded the home to the plaintiff and ordered her to pay the defendant $212,000, an amount representing approximately 40 percent of the equity in the home.[2]

[2] The arbitrator determined the total equity in the home to be $531,000. That factual finding has not been challenged.

The arbitrator also issued orders regarding the payment of child care expenses, health insurance and expenses for the children, and ordered the defendant to maintain life insurance for the benefit of the children.

On January 4, 2018, the plaintiff submitted a motion for "articulation/clarification/reargument" of the arbitration award, in which she argued, inter alia, that the arbitration award violated the terms of the premarital agreement by ordering the plaintiff to pay to the defendant $212,000 of the equity in the home. Specifically, the plaintiff argued that the arbitrator should have applied French law to determine that she owned, as separate property, equity equal to her original contribution of $429,000 used to purchase the home, which would have resulted in a substantially lower amount subject to equitable distribution. The arbitrator denied the plaintiff's motion.[3]

On January 9, 2018, the defendant filed an application to confirm the arbitration award. Two days later, on January 11, 2018, the plaintiff filed a motion to vacate the award. On December 17, 2018, the trial court granted the plaintiff's motion to vacate the arbitration award and denied the defendant's application to confirm the award. The court concluded that, pursuant to General Statutes § 52-418 (a) (4),[4] "the arbitrator exceeded her powers and failed to issue an arbitration award that conformed to the parties' arbitration agreement. . . . The arbitration agreement directed the arbitrator to 'determine the validity and effectuation of the parties'

[3] The arbitrator corrected a scrivener's error that the plaintiff had identified in her motion.

[4] General Statutes § 52-418 (a) provides in relevant part: "Upon the application of any party to an arbitration, the superior court for the judicial district in which one of the parties resides . . . shall make an order vacating the award if it finds any of the following defects: . . . (4) if the arbitrators have exceeded their powers or so imperfectly executed them that a mutual, final and definite award upon the subject matter submitted was not made."

premarital agreement; and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code.' The arbitrator instead applied Connecticut law and awarded a property distribution payment to the defendant that contravened the provisions of the arbitration agreement." (Citation omitted.) The trial court also concluded that "the arbitration award failed to effectuate the parties' premarital agreement, which provided that each party's separate property would remain his or her separate property in the event of a dissolution of the marriage," and that "the arbitration award violated General Statutes §§ 46b-66 (c) and 52-408 (c), which specifically prohibit the arbitration of issues relating to child support." The defendant appealed, and we transferred the appeal to this court pursuant to General Statutes § 51-199 (c) and Practice Book § 65-1.

On appeal, the defendant claims that (1) the trial court lacked subject matter jurisdiction to consider the plaintiff's motion to vacate the arbitration award because it was untimely, (2) the trial court lacked subject matter jurisdiction to consider the plaintiff's arguments regarding child support because the plaintiff was not aggrieved and her arguments were moot, (3) the trial court improperly vacated the arbitration award under § 52-418 (a) (4) because the arbitrator neither exceeded her authority under the arbitration agreement nor manifestly disregarded the law, and (4) the trial court improperly vacated the arbitration award on the ground that the award arbitrated issues related to child support in violation of § 46b-66 (c) or, alternatively, that the portion of the award containing orders related to child support was severable. The plaintiff disputes each of the defendant's claims and also argues that the defendant's appeal must be dismissed for lack of a final judgment.

I

APPELLATE JURISDICTION

We must first address the plaintiff's contention that we lack appellate jurisdiction over the present appeal. The plaintiff claims that there is no final judgment from which to appeal because General Statutes § 52-423,[5] which provides a statutory right of appeal from an order vacating an arbitration award, is inapplicable to arbitration awards that include "issues related to child support" pursuant to § 46b-66 (c).[6] This argument is without merit.

Underlying our analysis is the fundamental precept that "[t]he right of appeal is purely statutory. It is accorded only if the conditions fixed by statute and the rules of court for taking and prosecuting the appeal are met. . . . The statutory right to appeal is limited to appeals by aggrieved parties from final judgments." (Citations omitted.) *State* v. *Curcio*, 191 Conn. 27, 30, 463 A.2d 566 (1983). "The lack of a final judgment is a jurisdictional defect that mandates dismissal." *In re Michael S.*, 258 Conn. 621, 625, 784 A.2d 317 (2001). This limitation would not appear to present an obstacle to the defendant's ability to obtain appellate review in the present case because § 52-423 expressly confers on parties the right to appeal from orders related to the judicial enforcement of arbitration awards: "An appeal may be taken from an order confirming, vacating, modi-

[5] General Statutes § 52-423 provides: "An appeal may be taken from an order confirming, vacating, modifying or correcting an award, or from a judgment or decree upon an award, as in ordinary civil actions."

[6] General Statutes § 46b-66 (c) provides in relevant part: "The provisions of chapter 909 shall be applicable to any agreement to arbitrate in an action for dissolution of marriage under this chapter, provided . . . such agreement and an arbitration pursuant to such agreement shall not include issues related to child support, visitation and custody. An arbitration award in such action shall be confirmed, modified or vacated in accordance with the provisions of chapter 909."

fying or correcting an award, or from a judgment or decree upon an award, as in ordinary civil actions." General Statutes § 52-423. We have explained that "[t]he final judgment in an arbitration proceeding is ordinarily an order of the court vacating, modifying or confirming the arbitrator's award." *Daginella* v. *Foremost Ins. Co.*, 197 Conn. 26, 30, 495 A.2d 709 (1985).

The fact that the arbitration at issue involves a marital dissolution is of no consequence. Section 46b-66 (c) provides in relevant part: "The provisions of chapter 909 [which include the right to appeal conferred by § 52-423] shall be applicable to any agreement to arbitrate in an action for dissolution of marriage under this chapter, provided . . . such agreement and an arbitration pursuant to such agreement shall not include issues related to child support, visitation and custody. An arbitration award in such action shall be confirmed, modified or vacated in accordance with the provisions of chapter 909."

The plaintiff's jurisdictional argument seizes on the proviso in § 46b-66 (c) stating that the arbitration statutes, including the right to appeal under § 52-423 of chapter 909, are applicable in a marital dissolution action "provided . . . such agreement and an arbitration pursuant to such agreement shall not include issues related to child support, visitation and custody." The plaintiff contends, in other words, that § 46b-66 (c) contains a condition precedent categorically excluding from the scope of cases subject to appeal any trial court order vacating or confirming an arbitration award that includes "issues related to child support, visitation and custody." We reject the plaintiff's strained construction of the statute. The restriction contained in § 46b-66 (c) does not operate as a categorical condition on a party's right of appeal but, instead, merely limits the enforceable scope of the parties' arbitration agreement and award under chapter 909.

Our review of this issue is conducted under the familiar rules of statutory construction. "[I]ssues of statutory construction raise questions of law, over which we exercise plenary review. . . . The process of statutory interpretation involves the determination of the meaning of the statutory language as applied to the facts of the case, including the question of whether the language does so apply. . . . When construing a statute, [o]ur fundamental objective is to ascertain and give effect to the apparent intent of the legislature. . . . In other words, we seek to determine, in a reasoned manner, the meaning of the statutory language as applied to the facts of [the] case, including the question of whether the language actually does apply. . . . In seeking to determine that meaning, General Statutes § 1-2z directs us first to consider the text of the statute itself and its relationship to other statutes. If, after examining such text and considering such relationship, the meaning of such text is plain and unambiguous and does not yield absurd or unworkable results, extratextual evidence of the meaning of the statute shall not be considered." (Internal quotation marks omitted.) *Boisvert* v. *Gavis*, 332 Conn. 115, 141–42, 210 A.3d 1 (2019).

The plain language of § 46b-66 (c), read in a vacuum, perhaps could be viewed to support the plaintiff's construction. But context matters in statutory construction, as do practical consequences, and these considerations lead quickly and definitively to a contrary result. The pertinent context here is found in § 52-408[7] of chapter

[7] General Statutes § 52-408 provides: "An agreement in any written contract, or in a separate writing executed by the parties to any written contract, to settle by arbitration any controversy thereafter arising out of such contract, or out of the failure or refusal to perform the whole or any part thereof, or a written provision in the articles of association or bylaws of an association or corporation of which both parties are members to arbitrate any controversy which may arise between them in the future, or an agreement in writing between two or more persons to submit to arbitration any controversy existing between them at the time of the agreement to submit, or an agreement in writing between the parties to a marriage to submit to arbitration any controversy between them with respect to the dissolution

909, which "explains what agreements to arbitrate are governed by its provisions." *LaFrance* v. *Lodmell*, 322 Conn. 828, 837, 144 A.3d 373 (2016); see id., 838 (reading §§ 46b-66 (c) and 52-408 "to operate harmoniously" because they "are designed to relate to the same subject matter"). Section 52-408 provides in relevant part that "an agreement in writing between the parties to a marriage to submit to arbitration any controversy between them with respect to the dissolution of their marriage, *except issues related to child support, visitation and custody*, shall be valid, irrevocable and enforceable, except when there exists sufficient cause at law or in equity for the avoidance of written contracts generally." (Emphasis added.)

The plain language of § 52-408 demonstrates that the exception for "issues related to child support, visitation and custody" operates as a limitation on the enforceable scope of the parties' agreement to arbitrate and, by extension, the arbitration award, rather than as a condition precedent to the applicability of chapter 909 itself. See *LaFrance* v. *Lodmell*, supra, 322 Conn. 836 (recognizing that legislature "use[d] limiting language . . . in § 46b-66 (c), when it provided that 'such agreement and an arbitration pursuant to such agreement shall not include issues related to child support, visitation and custody' "). Stated another way, a fair and equitable agreement to arbitrate a marital dissolution action is "valid, irrevocable and enforceable," except insofar as it includes "issues related to child support, visitation and custody"; General Statutes § 52-408; which "must be resolved only by a court." *Kirwan* v. *Kirwan*, 185 Conn. App. 713, 733, 197 A.3d 1000 (2018). Thus, "if a court finds an agreement to arbitrate fair and equitable,

of their marriage, except issues related to child support, visitation and custody, shall be valid, irrevocable and enforceable, except when there exists sufficient cause at law or in equity for the avoidance of written contracts generally."

it will be subject to the provisions of chapter 909."[8] *LaFrance* v. *Lodmell*, supra, 838.

This construction comports with common sense. To construe § 46b-66 (c) to impose, as a condition precedent to the applicability of chapter 909, the exclusion of issues related to child support, custody, and visitation, as the plaintiff suggests, would yield absurd and unworkable results. Under the plaintiff's proposed interpretation of the statute, the parties could have a perfectly valid and binding arbitration agreement under § 52-408 but nonetheless be unable to obtain judicial relief to confirm, vacate, correct, or modify the subsequent arbitration award under chapter 909 if it erroneously included even a single, isolated order related to child support, visitation, or custody. A party in that circumstance would be left in limbo and without legal recourse, contractually bound to arbitrate the dissolution action but unable to enforce, modify or vacate the subsequent arbitration award.[9] We do not believe that the legislature intended such a bizarre result. See id.,

[8] We recognize that, in *LaFrance*, we stated that, "before chapter 909 can apply to an agreement to arbitrate between parties to a marriage, it must meet the requirements set forth in § 46b-66 (c)." *LaFrance* v. *Lodmell*, supra, 322 Conn. 837. At the same time, however, we stated that §§ 46b-66 (c) and 52-408 must be "read . . . to operate harmoniously. Indeed, it is important to note that the relevant provisions within §§ 46b-66 (c) and 52-408 were both adopted by the legislature in 2005. See Public Acts 2005, No. 05-258, §§ 1 and 2." *LaFrance* v. *Lodmell*, supra, 838. We therefore construed § 46b-66 (c) to provide that, "if a court finds an agreement to arbitrate fair and equitable, it will be subject to the provisions of chapter 909. In turn, § 52-408 includes agreements to arbitrate between parties to a marriage in those agreements to arbitrate that are governed by chapter 909, subject to the court's finding that the agreement to arbitrate is fair and equitable." Id. In the present case, it is undisputed that the parties' agreement to arbitrate is fair and equitable; therefore, pursuant to *LaFrance*, we conclude that it is "subject to the provisions of chapter 909." Id.

[9] The plaintiff ignores the self-regarding consequences of her own argument. If chapter 909 is inapplicable to the present case, the trial court necessarily lacked the authority to grant her motion to vacate the arbitration award under § 52-418.

839 (rejecting interpretation of § 46b-66 (c) that would produce absurd and unworkable results). We conclude that we have jurisdiction over the defendant's appeal pursuant to § 52-423.

II

TRIAL COURT'S JURISDICTION

A

Timeliness Under General Statutes § 52-420

The defendant advances a number of jurisdictional claims of his own. First, the defendant claims that the trial court lacked subject matter jurisdiction to consider the plaintiff's motion to vacate the arbitration award because the motion was untimely under § 52-420 (b).[10] He concedes that the plaintiff filed a motion to vacate within the time limit set by § 52-420 (b) but argues that the motion was deficient because it failed to identify any particularized factual grounds for vacating the award. We disagree.

The following additional procedural history is relevant to our resolution of this issue. The arbitrator issued the award on December 15, 2017. The plaintiff filed a one paragraph motion to vacate the award on January 11, 2018, well within the statutory thirty day time limit. The motion, without elaboration, provided that "[t]he plaintiff submits that the arbitrator exceeded her powers and so imperfectly executed them that no mutual, final and definite award [on] the subject matter was made. As a result, the arbitrator failed to satisfy her duties under . . . § 52-418 and the arbitration agreement." For reasons not apparent from the record, argument on the plaintiff's motion was scheduled for August 10, 2018, seven months after it was filed. On June 7,

[10] General Statutes § 52-420 (b) provides: "No motion to vacate, modify or correct an award may be made after thirty days from the notice of the award to the party to the arbitration who makes the motion."

2018, the defendant filed an objection to the motion, arguing that the trial court lacked subject matter jurisdiction to consider the motion to vacate because the plaintiff had failed to identify a factual basis for vacating the arbitrator's award within the thirty day time period provided by § 52-420 (b).[11] The day before argument on the plaintiff's motion to vacate, the plaintiff filed a detailed memorandum of law in support of her motion, in which she argued that the award should be vacated because (1) the arbitrator exceeded the scope of the arbitration agreement and exhibited a manifest disregard of the law in violation of § 52-418 (a) (4), (2) the arbitration award included issues related to child support in violation of § 46b-66 (c), and (3) the award violated Connecticut public policy in favor of the enforcement of premarital agreements.

At the hearing on the motion to vacate, the defendant again raised his timeliness challenge, pointing out that he had not received the plaintiff's memorandum of law in support of the motion to vacate until the day before. The trial court offered the defendant a second hearing and an opportunity to file a responsive brief, stating: "I don't want anyone to feel that they were blindsided. So, if we take evidence today and you would like to have a second hearing date after you've had an opportunity, if you feel you did not have adequate notice, I will absolutely give you an opportunity to do that."[12] The court

[11] The defendant filed a supplemental memorandum of law in opposition to the motion to vacate and in support of the application to confirm the award on August 7, 2018. In this supplemental memorandum of law, the defendant reiterated his claim that the trial court lacked subject matter jurisdiction to consider the plaintiff's motion to vacate the award and also argued that there was no basis under § 52-418 (a) (4) to vacate the award.

[12] The court and the defendant's counsel discussed responsive briefing at the end of the August 10, 2018 hearing:

"The Court: Okay. So . . . you wanted time to file a supplemental memorandum?

"[The Defendant's Counsel]: Yes, Your Honor. I believe I could file it this afternoon. I just wanted to provide the town of Marlborough case—

"The Court: Sure.

then heard argument on the plaintiff's motion to vacate. On August 17, 2018, the defendant filed a supplemental memorandum of law in opposition to the motion to vacate, in which he again raised his jurisdictional challenges to the plaintiff's motion.

The defendant's claim requires us to determine the necessary degree of specificity that a party must provide in a motion to vacate under § 52-420. This is an issue of statutory interpretation over which we exercise plenary review. See *Wu* v. *Chang*, 264 Conn. 307, 310, 823 A.2d 1197 (2003) (exercising plenary review over issue regarding thirty day time period in § 52-420 (b)). Section 52-420 (b) provides: "No motion to vacate, modify or correct an award may be made after thirty days from the notice of the award to the party to the arbitration who makes the motion." We have previously explained that the failure to comply with this thirty day time limit implicates the trial court's subject matter jurisdiction. See *Wu* v. *Chang*, supra, 312 ("[i]f the motion is not filed within the thirty day time limit [under § 52-420 (b)], the trial court does not have subject matter jurisdiction over the motion" (internal quotation marks omitted)). Section 52-420, however, does not contain any language requiring the moving party to set forth any particularized grounds in support of a timely filed motion to vacate an arbitration award. Cf. *Morris* v. *Hartford Courant Co.*, 200 Conn. 676, 683 n.5, 513 A.2d 66 (1986) (observing that motion to strike would be fatally defective if it failed to comply with then Practice Book § 154, which required that motion to strike based on legal insuffi-

"[The Defendant's Counsel]: —that I cited for you.

"The Court: Yeah. That's fine. So it can be next week, whatever works for you. . . . So, what would be—and what would be the timing that would work for you?

* * *

"The Court: So, shall we just say by next Friday?

"[The Defendant's Counsel]: Yes, Your Honor. I will certainly endeavor to have it sooner."

ciency "distinctly specify the reason or reasons for each such claimed insufficiency"). We "must construe a statute as written. . . . Courts may not by construction supply omissions . . . or add exceptions merely because it appears that good reasons exist for adding them. . . . It is axiomatic that the court itself cannot rewrite a statute to accomplish a particular result. That is a function of the legislature." (Internal quotation marks omitted.) *Vincent* v. *New Haven*, 285 Conn. 778, 792, 941 A.2d 932 (2008).

Nothing in § 52-420 requires a movant to articulate the factual basis for a motion to vacate, modify or correct an arbitration award.[13] The statute simply requires the motion to be filed within thirty days of the date on which notice of the arbitration award was received, and it is undisputed that the plaintiff's motion was filed within the thirty day statutory time period. If the opposing party wishes to obtain greater specificity prior to responding to such a motion or requires additional time to respond after receiving a belated memorandum in support of the motion, it is easy enough for the party seeking more time to make such a request, and presumably the trial court will enter an appropriate scheduling order.[14] Although it would be useful if the initial motion

[13] The defendant argues that a motion to vacate is functionally equivalent to a complaint and, therefore, must state the essential factual allegations necessary to confer jurisdiction. The analogy is inapt. Unlike the fact pleading requirements for complaints in civil actions; see General Statutes § 52-91 ("[t]he first pleading on the part of the plaintiff shall be known as the complaint and shall contain a statement of the facts constituting the cause of action and, on a separate page of the complaint, a demand for the relief, which shall be a statement of the remedy or remedies sought"); § 52-420 does not require a movant to file a "statement of the facts constituting" the basis for the motion. General Statutes § 52-91. We also decline the defendant's invitation to amend § 52-420 by judicial construction to achieve what he argues would be a more efficient, economical, and expeditious procedure for the judicial consideration of arbitration awards.

[14] Indeed, the trial court in the present case took care to ensure that the defendant was not prejudiced by the plaintiff's belated submission. When the defendant raised the issue of the plaintiff's last minute filing, the trial court offered the defendant a second hearing and an opportunity to file a

contained as much pertinent information as possible, including its factual grounds, the statute does not require it. We conclude that the plaintiff's motion to vacate was timely filed under § 52-420 and that the trial court had subject matter jurisdiction over the motion.[15]

B

Aggrievement and Mootness

Next, the defendant claims that the trial court lacked subject matter jurisdiction to consider the child support arguments in the plaintiff's motion to vacate because the plaintiff was not aggrieved by the child support portion of the award and her arguments were moot. We again disagree.

Because questions of aggrievement and mootness implicate subject matter jurisdiction, our review over both is plenary. See, e.g., *Andross* v. *West Hartford*, 285 Conn. 309, 321–22, 939 A.2d 1146 (2008). With two exceptions[16] inapplicable here, judicial review of arbi-

responsive brief at a "[time] that would work for" him. Footnote 12 of this opinion.

[15] Alternatively, the defendant argues that, "[e]ven if the . . . plaintiff's reference to § 52-418 (a) (4)" in her motion to vacate "was sufficient to give the trial court jurisdiction to consider such grounds for vacatur," the trial court lacked jurisdiction over the plaintiff's claims that the award (1) impermissibly included issues related to child support, and (2) violated the public policy favoring the enforcement of premarital agreements. We are not persuaded. Subdivision (4) of § 52-418 (a) provides that an arbitration award may be vacated "if the arbitrators have exceeded their powers or so imperfectly executed them that a mutual, final and definite award upon the subject matter submitted was not made." This ground for vacatur clearly includes a claim that the arbitrator exceeded her authority by including in the award issues related to child support in violation of §§ 46b-66 (c) and 52-408. As for the plaintiff's claim based on public policy, there is no need for us to address the jurisdictional issue raised by the defendant because the trial court did not discuss that claim in its order vacating the award and did not rely on that ground in granting the plaintiff's motion to vacate.

[16] In *Garrity* v. *McCaskey*, 223 Conn. 1, 612 A.2d 742 (1992), we explained that, in addition to the statutory grounds set forth in § 52-418, two common-law grounds also exist for vacating an arbitration award: (1) "the award rules on the constitutionality of a statute," and (2) "the award violates clear public policy . . . ." Id., 6.

tration awards is governed by § 52-418. *Garrity* v. *McCaskey*, 223 Conn. 1, 6, 612 A.2d 742 (1992). Section 52-418 (a) provides in relevant part: "Upon the application of *any party to an arbitration*, the superior court . . . shall make an order vacating the award if it finds any of the following defects . . . ." (Emphasis added.) This language has the dual effect of both limiting the subject right, by providing that only parties to an arbitration may move to vacate an arbitration award,[17] and simultaneously conferring that right on any party, without qualification. In particular, § 52-418 contains no requirement that a party moving to vacate an arbitration award must have been aggrieved by the award, and we have never held that to be a requirement under the statute. Cf. *Dillon* v. *American Brass Co.*, 135 Conn. 10, 16, 60 A.2d 661 (1948) (upholding trial court's order dismissing application to vacate arbitration award but clarifying that proper ground for dismissal was not that moving parties were not aggrieved but, rather, that they "were not parties to the arbitration who had any standing to apply to have it vacated").

The absence of any language in § 52-418 requiring aggrievement is made conspicuous by comparison with General Statutes § 52-263, which provides the statutory right to appeal in civil actions. That section provides in relevant part: "Upon the trial of all matters of fact in any cause or action in the Superior Court . . . *if either party is aggrieved* by the decision of the court or judge upon any question or questions of law arising in the trial . . . he may appeal to the court having jurisdiction from the final judgment of the court . . . ."

[17] See *McCaffrey* v. *United Aircraft Corp.*, 147 Conn. 139, 142, 157 A.2d 920 ("[a]ction in the courts to compel compliance with the arbitration provisions of the agreement can be taken only by the parties as determined in the agreement"), cert. denied, 363 U.S. 854, 80 S. Ct. 1636, 4 L. Ed. 2d 1736 (1960); *Colleran* v. *Cassidento*, 27 Conn. App. 386, 394 n.7, 607 A.2d 434 (1992) ("§ 52-418 provides that only a 'party' to an arbitration may make an application to [the] Superior Court to vacate the arbitration award").

(Emphasis added.) General Statutes § 52-263; see also General Statutes § 8-7 ("[a]n appeal may be taken to the zoning board of appeals *by any person aggrieved*" (emphasis added)); General Statutes (Supp. 2020) § 45a-186 (b) ("[*a*]*ny person aggrieved* by an order, denial or decree of a Probate Court may appeal therefrom to the Superior Court" (emphasis added)). The aggrievement requirement in civil actions is set forth in the plain language of § 52-263. See *State* v. *Salmon*, 250 Conn. 147, 153, 735 A.2d 333 (1999) ("[o]n its face, [§ 52-263] explicitly sets out three criteria that must be met in order to establish subject matter jurisdiction for appellate review: (1) the appellant must be a party; (2) the appellant must be aggrieved by the trial court's decision; and (3) the appeal must be taken from a final judgment"). Section 52-418, in contrast, has no aggrievement requirement and explicitly provides that "*any party* to an arbitration" may apply for vacatur of an arbitration award.[18] (Emphasis added.) General Statutes 52-418 (a). As a party to the arbitration proceedings, the statute permitted the plaintiff to move to vacate the arbitration award. We decline the defendant's request to import an aggrievement requirement into § 52-418 when the legislature has chosen not to do so.

The defendant also claims that the elements of the arbitration award related to child support had become moot by the time the motion to vacate was adjudicated in the trial court because those issues had been resolved by the stipulation of the parties. "It is a [well settled]

[18] Virtually identical language appears in General Statutes § 52-417, which provides in relevant part that, "[a]t any time within one year after an award has been rendered and the parties to the arbitration notified thereof, *any party to the arbitration* may make application to the superior court . . . for an order confirming the award. . . ." (Emphasis added.) It would make no sense, of course, to require that a party must be aggrieved by an arbitration award before moving to confirm the award. We will not construe the very same language used in § 52-418 to require aggrievement in connection with a motion to vacate the award.

general rule that the existence of an actual controversy is an essential requisite to . . . jurisdiction . . . . When, during the pendency of an appeal, events have occurred that preclude [a] . . . court from granting any practical relief through its disposition of the merits, a case has become moot." (Internal quotation marks omitted.) *Sweeney* v. *Sweeney*, 271 Conn. 193, 201, 856 A.2d 997 (2004). The defendant points out that the parties had entered into two pendente lite stipulations regarding child support, which already had been approved by the court by the time that the motion to vacate was heard.[19] The defendant also argues that vacating the award related to child support could not have provided the plaintiff with any practical relief because the defendant would still be obligated to pay child support to the plaintiff pursuant to General Statutes § 46b-84 (a)[20] and § 46b-215a-2c (f) (1) (A)[21] and (g)[22] of the Regulations of Connecticut State Agencies.

[19] On January 8, 2018, the parties entered into a stipulation pendente lite providing that (1) the defendant would pay the plaintiff child support in the amount of $714 per week, and (2) the defendant would pay 73 percent and the plaintiff would pay 27 percent of the children's health expenses not covered by insurance and extracurricular expenses. On August 10, 2018, the parties entered into an additional stipulation pendente lite that essentially reaffirmed the provisions of the January 8, 2018 stipulation and required the defendant to pay all past due support amounts.

[20] General Statutes § 46b-84 (a) provides in relevant part: "Upon or subsequent to the annulment or dissolution of any marriage or the entry of a decree of legal separation or divorce, the parents of a minor child of the marriage, shall maintain the child according to their respective abilities, if the child is in need of maintenance. . . ."

[21] Section 46b-215a-2c (f) (1) (A) of the Regulations of Connecticut State Agencies provides: "An order under this subparagraph shall direct either parent to name the child as a beneficiary of any medical or dental insurance or benefit plan carried by or available to such parent at reasonable cost."

[22] Section 46b-215a-2c (g) (1) of the Regulations of Connecticut State Agencies provides: "Subject to section 46b-215a-5c of the Regulations of Connecticut State Agencies, the noncustodial parent shall be ordered to pay the custodial parent a child care contribution as part of each child support award entered under this section. Such contribution shall be for the purpose of reimbursing the custodial parent for a portion of the child care costs incurred on behalf of the subject child."

We reject the defendant's claim that the parties' pendente lite stipulations rendered the issue of child support moot. Pendente lite orders are not permanent orders but, instead, terminate with the conclusion of litigation. *LaBow* v. *LaBow*, 171 Conn. 433, 443, 370 A.2d 990 (1976). Thus, the issue of final orders involving child support—those contained in the arbitration award—was not resolved by the pendente lite stipulations.

Nor were the child support issues rendered moot by virtue of the fact that the defendant still would be obligated by statute and regulation to pay child support if the award were vacated. The amount of child support owed by a party to a dissolution action is an issue to be determined by the trial court in light of the child support guidelines. See General Statutes § 46b-215b (a) ("[t]he child support and arrearage guidelines issued pursuant to section 46b-215a, adopted as regulations pursuant to section 46b-215c . . . shall be considered in all determinations of child support award amounts"); *Tuckman* v. *Tuckman*, 308 Conn. 194, 205, 61 A.3d 449 (2013) ("the legislature has thrown its full support behind the guidelines, expressly declaring that [t]he . . . guidelines established pursuant to [General Statutes §] 46b-215a and in effect on the date of the support determination *shall be considered in all determinations of child support amounts*" (emphasis in original; internal quotation marks omitted)); *Kirwan* v. *Kirwan*, supra, 185 Conn. App. 733 ("the legislature concluded, as a matter of public policy, that issues involving custody, visitation, and child support must be resolved only by a court"). The court may, in its discretion, deviate from the child support guidelines in determining the correct amount of child support in any particular case, but "any deviation from the schedule or the principles on which the guidelines are based must be accompanied by the court's explanation as to why the guidelines are

inequitable or inappropriate and why the deviation is necessary to meet the needs of the child." *Maturo* v. *Maturo*, 296 Conn. 80, 95–96, 995 A.2d 1 (2010). The fact that the parties stipulated after arbitration to child support payments based on their consideration of the child support guidelines in no way resolved the issue of child support or released the trial court from the obligation to make a child support determination on the record. See *Favrow* v. *Vargas*, 231 Conn. 1, 25, 647 A.2d 731 (1994) (trial court "must . . . determine on the record the amount of support indicated by the guidelines schedule"). Child support was a determination to be made by the trial court after and separate from the arbitration proceeding, and it was unresolved when the trial court considered the motion to vacate the arbitration award. Therefore, the issue of child support was not moot.

III

ARBITRATION AWARD

A

Additional Facts and Standard of Review

The trial court granted the plaintiff's motion to vacate the arbitration award on the grounds that (1) the arbitrator exceeded the scope of the arbitration agreement because the parties bargained for the arbitration of their dissolution action to be governed by French law, but the arbitrator applied Connecticut law to divide the equity in the marital home, and (2) the arbitrator manifestly disregarded the law by ignoring the clear choice of law provisions in the arbitration agreement and the premarital agreement. The defendant challenges both conclusions.

We begin by setting forth additional facts and procedural history relevant to the defendant's claims. The parties purchased their home in 2008 for $1,145,000.

The parties made a down payment in the amount of $444,000, largely through funds provided by the plaintiff's father. Whether as a loan or a gift,[23] the plaintiff's father sent the plaintiff approximately $479,000 prior to the purchase, and the plaintiff contributed approximately $429,000 of that amount toward the purchase price of the home. The balance of the down payment, approximately $15,000, was provided by the defendant. Title to the home was taken in both of the parties' names. Over the ensuing years, the defendant made all of the mortgage, tax, and insurance payments on the home, which totaled more than $600,000. The arbitrator determined the fair market value of the home at the time of dissolution to be $1,150,000 and the equity in the home to be $531,000.

In allocating the equity in the parties' home, the arbitrator began with the provisions of the premarital agreement. The arbitrator explained: "The parties' [premarital] agreement contemplates that the parties may own both separate and joint property. On the one hand, [that] agreement provided that each party's separate property would remain the separate property of its owner and belong exclusively to that party in the event of a dissolution of marriage. . . . The [premarital] agreement's treatment of separate property applies to all such property—whether owned at the time of the marriage or acquired after the marriage by a party solely in his or her name. . . . On the other hand, the [premarital] agreement provides that property acquired by parties in their joint names shall belong to both, absent proof to the contrary." (Citations omitted.) The arbitrator also recognized that the $429,000 the plaintiff had contributed to the purchase of the home had been the separate property of the plaintiff when she received

[23] It was disputed whether the funds received by the plaintiff from her father were a loan or a gift. The proper characterization does not matter for present purposes.

those funds from her father. To determine how the equity in the home should be distributed under these circumstances, the arbitrator explained that "[t]he answer turns on (1) whether the home is separate or joint property and, if joint property, (2) whether Connecticut law or French law determines this distribution. The [premarital] agreement answers the first question, and well established choice of law principles answer the second. The [premarital] agreement provides that the parties' home is joint property. Article III of [that] agreement states that, 'unless there is legal proof to the contrary . . . [r]eal property . . . shall be presumed to belong to the one of the spouses in whose name the acquisition is made, and to both, if the acquisition is made in both of their names.' Here, the parties took title to the marital home jointly. The [premarital] agreement thus presumes that the marital home belongs to both parties, and neither party presented evidence sufficient to rebut this clear presumption."

The arbitrator then addressed how to divide the equity in the marital home. "Though the [premarital] agreement provides that the marital home is joint property, it does not dictate how such joint property is to be divided—a point on which the parties now disagree. The plaintiff contends that French law should determine the division, [whereas] the defendant contends that Connecticut law controls. Under French law, each party would recover his or her contribution to the joint asset and would receive any return on investment or profit thereon in proportion to the contribution made. . . . Under Connecticut law, the joint asset may be divided in the discretion of the tribunal." (Citation omitted; footnote omitted.) The arbitrator applied the "most significant relationship approach" of § 188 of the Restatement (Second) of Conflict of Laws to resolve the conflict of laws. The arbitrator first determined that the parties had not explicitly chosen a particular rule of

law to govern their contractual rights and duties as to jointly owned property in the event of divorce. Specifically, the arbitrator determined that "[t]he [premarital] agreement does . . . explicitly choose French law to govern the parties' relationship during the term of their marriage. In article I of [that] agreement, the parties 'designate[d], as the law to be applicable *to their matrimonial regime*, the French law,' and 'adopt[ed] as the basis for their union the regime of the separation of property, as . . . established by [the French Civil Code].' . . . During their marriage, the parties were to manage their property and answer for their own debts under the French regime of separation. . . . The [premarital] agreement does not, however, include a similar choice of law provision to govern the parties' joint property in the event of divorce." (Citations omitted; emphasis in original.) Having concluded that the parties had not designated a particular rule of law to govern the distribution of the equity in the home, the arbitrator applied the most significant relationship approach and determined that Connecticut law should govern the division of the equity in the home.

Applying Connecticut law to distribute the equity in the home, the arbitrator awarded title of the home to the plaintiff and ordered her to pay $212,000 to the defendant. The arbitrator explained: "The payment to be made by the plaintiff to the defendant . . . is a reflection that the parties have both contributed to the ownership of [the home]. Further, it provides that the defendant will receive his equitable share without concern to the vagaries of the real estate market. Finally, it is a part of the crafted mosaic intended to adequately address both the statutory criteria for the division of joint property and the award of spousal support."

The principles governing our review of the defendant's claims are well established. "Because we favor arbitration as a means of settling private disputes, we

undertake judicial review of arbitration awards in a manner designed to minimize interference with an efficient and economical system of alternative dispute resolution. . . . Furthermore, in applying this general rule of deference to an arbitrator's award, [e]very reasonable presumption and intendment will be made in favor of the [arbitration] award and of the arbitrators' acts and proceedings." (Internal quotation marks omitted.) *State* v. *Connecticut State Employees Assn., SEI Local 2001*, 287 Conn. 258, 270, 947 A.2d 928 (2008). "Judicial review of [arbitration] decisions is narrowly confined. . . . When the parties agree to arbitration and establish the authority of the arbitrator through the terms of their submission, the extent of our judicial review of the award is delineated by the scope of the parties' [arbitration] agreement." (Internal quotation marks omitted.) *Harty* v. *Cantor Fitzgerald & Co.*, 275 Conn. 72, 80, 881 A.2d 139 (2005). This is because "[a]rbitration is a creature of contract and the parties themselves, by the terms of their submission, define the powers of the arbitrators." (Internal quotation marks omitted.) *LaFrance* v. *Lodmell*, supra, 322 Conn. 850.

The standard of review in this context depends on whether the submission to the arbitrator is restricted or unrestricted. A restricted submission, which expressly "restrict[s] the breadth of the issues [to be resolved by the arbitrator], reserv[es] explicit rights, or condition[s] the award on court review," is subject to de novo review. (Internal quotation marks omitted.) *Office of Labor Relations* v. *New England Health Care Employees Union, District 1199, AFL-CIO*, 288 Conn. 223, 229, 951 A.2d 1249 (2008). The arbitrator's award in an unrestricted submission, by contrast, is considered "final and binding; thus the courts will not review the . . . award for errors of law or fact." (Internal quotation marks omitted.) *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 80. "Where the submission does not

otherwise state, the arbitrators are empowered to decide factual and legal questions and an award cannot be vacated on the grounds that . . . the interpretation of the agreement by the arbitrators was erroneous. Courts will not review the evidence nor, where the submission is unrestricted, will they review the arbitrators' decision of the legal questions involved." (Internal quotation marks omitted.) Id.

The parties have not addressed in their briefs whether the submission to the arbitrator was restricted; nor have they asked us to review de novo the award's division of the home equity. Instead, both parties present their competing arguments using the "scope of the submission" and "manifest disregard of the law" grounds to vacate an award under § 52-418 (a) (4). That presentation presupposes an unrestricted submission. See *Toland* v. *Toland*, 179 Conn. App. 800, 807 n.5, 182 A.3d 651 ("analysis under § 52-418 . . . applies when a party attempts to vacate *unrestricted* submissions" (emphasis in original)), cert. denied, 328 Conn. 935, 183 A.3d 1174 (2018). We will address the parties' claims as they have been presented to us and, therefore, apply the standard of review applicable to unrestricted submissions.[24] See, e.g., *Industrial Risk Insurers* v. *Hartford Steam Boiler Inspection & Ins. Co.*, 258 Conn. 101, 112, 779 A.2d 737 (2001) ("[a] submission is unrestricted unless otherwise agreed by the parties" (internal quotation marks omitted)); *Maluszewski* v. *Allstate Ins. Co.*, 34 Conn. App. 27, 36, 640 A.2d 129 ("[T]he parties easily could have provided that the arbitrators' conclusions of law would be subject to de novo review. The failure

[24] The plaintiff argued in the trial court that the submission was restricted but invoked, as she does here, the "scope of the submission" and "manifest disregard of the law" grounds to vacate under § 52-418 (a) (4), which apply to unrestricted submissions. The trial court's order granting the plaintiff's motion to vacate the award did not explicitly address whether the submission was restricted, but, as requested, the trial court invoked § 52-418 (a) (4) in granting the plaintiff's motion to vacate the award.

explicitly to do so in this case leaves the submission unrestricted."), cert. denied, 229 Conn. 921, 642 A.2d 1214 (1994).

The consequence of this limitation is significant because it means that judicial review is confined to determining only whether the arbitrator exceeded her authority under § 52-418. "[A] claim that the arbitrators have 'exceeded their powers' may be established under § 52-418 in either one of two ways: (1) the award fails to conform to the submission, or, in other words, falls outside the scope of the submission; or (2) the arbitrators manifestly disregarded the law." *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 85. Contrary to the trial court's ruling, neither ground for judicial intervention exists here.

B

Scope of the Award

"The standard for reviewing a claim that the award does not conform to the submission requires what we have termed 'in effect, de novo judicial review.' " Id., 84. The de novo label in this context means something very different from typical de novo review because review under this standard and in this setting "is limited to a comparison of the award to the submission. Our inquiry generally is limited to a determination as to whether the parties have vested the arbitrators with the authority to decide the issue presented or to award the relief conferred. With respect to the latter, we have explained that, as long as the arbitrator's remedies were consistent with the agreement they were within the scope of the submission. . . . In making this determination, the court may not engage in fact-finding by providing an independent interpretation of the contract, but simply is charged with determining if the arbitrators have ignored their obligation to interpret and to apply the contract as written." (Citations omitted; footnotes

omitted; internal quotation marks omitted.) Id., 85–86; see also *AFSCME, Council 4, Local 2663* v. *Dept. of Children & Families*, 317 Conn. 238, 252 n.8, 117 A.3d 470 (2015) ("although this court has stated that a court's review of an arbitration award is in effect, de novo judicial review, this means only that we draw our own conclusions regarding whether an arbitration award conforms to the submission" (internal quotation marks omitted)). To justify vacating an award on the ground that the award exceeds the scope of the submission, "we must determine that the award *necessarily* falls outside the scope of the submission." (Emphasis in original.) *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 98; see also *United Paperworkers International Union, AFL-CIO* v. *Misco, Inc.*, 484 U.S. 29, 38, 108 S. Ct. 364, 98 L. Ed. 2d 286 (1987) ("as long as the arbitrator is even arguably construing or applying the contract and acting within the scope of his authority, that a court is convinced he committed serious error does not suffice to overturn his decision"); *AFSCME, Council 4, Local 1303-325* v. *Westbrook*, 309 Conn. 767, 780, 75 A.3d 1 (2013) ("It is not [the court's] role to determine whether the arbitrator's interpretation of the collective bargaining agreement was correct. It is enough to uphold the judgment of the court, denying the [union's] application to vacate the award, that such interpretation was a good faith effort to interpret the terms of the collective bargaining agreement." (Internal quotation marks omitted.)).

To determine whether the arbitrator's award necessarily fell outside the scope of the submission, we begin with the language of the arbitration agreement. The parties' disagreement is centered on two of its provisions. The first provides in relevant part: "The parties agree to be guided by the laws . . . of Connecticut during the arbitration process and with respect to the substantive issues submitted for resolution by the

[a]rbitrator, except that the [a]rbitrator shall be guided by the French Civil Code with regard to any claim by the parties that the [a]rbitrator either vacate their premarital agreement or effectuate their premarital agreement and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code." The second provision provides in relevant part: "The parties shall arbitrate the dissolution of marriage action, including, but not limited to issues of" how to "determine the validity and effectuation of the parties' premarital agreement; and if effectuated determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code . . . ."

The plaintiff argues that these provisions required the arbitrator to apply the French Civil Code to determine whether property was joint or separate and to allocate property between the parties in accordance with that law. The defendant advocates a narrower construction, under which the arbitration agreement required French law to be applied to only two issues: (1) whether the premarital agreement would be enforced, and (2) what property came within the scope of the premarital agreement. The defendant contends that, because there ultimately was no dispute between the parties over either the enforceability of the premarital agreement or the inclusion of the marital home within the scope of the assets subject to the premarital agreement, the arbitrator's award plainly conformed to the scope of the submission.

The language of the arbitration agreement is unclear at best with regard to the issues in the present case.[25]

[25] The arbitration agreement contains a number of perplexing word choices that create difficulty for the plaintiff's argument that the parties intended to require the arbitrator to apply French law to determine how to distribute the property after classifying it as separate or joint property. First, the arbitration agreement provides that the arbitrator will be "guided" by the French Civil Code in certain specified respects. Choice of law provisions typically do not employ such gentle language but, instead, state unequivo-

We need not, however, choose between the parties' competing interpretations of these specific provisions contained in the arbitration agreement. The question for this court is not whether the arbitrator decided the issues correctly but only whether the issues were submitted for her to decide. "In determining whether an arbitrator has exceeded the authority granted under the contract, a court cannot base the decision on whether the court would have ordered the same relief, or whether . . . the arbitrator correctly interpreted the contract. The court must instead focus on whether the [arbitrator] had authority to reach a certain issue . . . . [A]s long as the arbitrator is even arguably construing or applying the contract and acting within the scope of

cally what law will govern or control. Second, the irregular use of the word "effectuate" in the agreement leads to further ambiguity. The plaintiff argues that "effectuating" the premarital agreement means carrying out the substantive provisions of that agreement, an interpretation that would have substantial force if it did not fight against the peculiar phrasing of the arbitration agreement, which provides that the arbitrator "shall be guided by the French Civil Code with regard to any claim by the parties that the [a]rbitrator either *vacate* their premarital agreement or *effectuate* their premarital agreement . . . ." (Emphasis added.) The parallel structure employed by the parties suggests that "effectuate" is intended to mean the opposite of "vacate," i.e., "enforce." This ambiguity leads to a lack of clarity that, in our view, is never removed: Does the arbitrator effectuate the premarital agreement by upholding its validity and applying its terms only to "determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code," as the defendant argues, or did the parties intend that the effectuation of the premarital agreement would require the arbitrator to apply French law in all respects when carrying out the substantive provisions of that agreement? This question points to further confusion sowed by the provision in the arbitration agreement stating that the arbitrator shall "determine what property is included within the scope of the premarital agreement pursuant to [the] French Civil Code . . . ." Does this provision mean, as the defendant argues, that the French Civil Code will be used only to determine the proper categorization of property as separate or joint, or does it mean, as the plaintiff argues, that the arbitrator also must apply French law to the *distribution* of all property, whether joint or separate, once a determination is made to effectuate the premarital agreement? The plaintiff's construction ultimately may be the better one, but the lack of clarity makes it virtually impossible to argue that the arbitrator's efforts to untangle this knotty language exceeded the scope of the submission.

authority, the award must be enforced. The arbitrator's decision cannot be overturned even if the court is convinced that the arbitrator committed serious error." (Internal quotation marks omitted.) *Comprehensive Orthopaedics & Musculoskeletal Care, LLC* v. *Axtmayer*, 293 Conn. 748, 755, 980 A.2d 297 (2009). "[A]s long as the arbitrator's remedies were consistent with the agreement they were within the scope of the submission. . . . [T]he court may not engage in fact-finding by providing an independent interpretation of the contract, but simply is charged with determining if the arbitrators have ignored their obligation to interpret and to apply the contract as written." (Citations omitted; internal quotation marks omitted.) *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 86; see also *Stratford* v. *International Assn. of Firefighters, AFL-CIO, Local 998*, 248 Conn. 108, 116, 728 A.2d 1063 (1999) ("it is the arbitrator's judgment that was bargained for and contracted for by the parties, and we do not substitute our own judgment merely because our interpretation of the agreement or contract at issue might differ from that of the arbitrator").

We have no difficulty answering this question in the affirmative. There is no evidence that the arbitrator ignored her obligation to interpret and to apply the arbitration agreement. The arbitrator carefully considered the arbitration submission in reaching her award, as demonstrated by her reference to the contested language in the arbitration agreement and her explanation that "both parties are asking this arbitrator and the court to enforce the premarital agreement in accordance with its terms. Therefore, the controversy between them is not as to whether the premarital agreement should be enforced but, instead, what the reach of its terms [is] regarding assets, and, as to certain issues, whether French law or Connecticut law applies." The arbitrator determined that the home equity fell within

the scope of the premarital agreement, as evidenced by the arbitrator's reliance on the premarital agreement to reach her determination that the home was joint property because it was held in both parties' names.

In comparing the award to the submission, it is clear that the arbitrator fulfilled her obligation to interpret and to apply the arbitration agreement. See, e.g., *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 85–86. Although the plaintiff challenges the correctness of the arbitrator's interpretation of the arbitration agreement, it is beyond the scope of our review to substitute our own interpretation of the contract for the arbitrator's when the arbitrator had fulfilled her obligation to interpret and to apply the agreement. See *AFSCME, Council 4, Local 1303-325* v. *Westbrook*, supra, 309 Conn. 780; *Harty* v. *Cantor Fitzgerald & Co.*, supra, 85–86. We agree with the defendant that the arbitrator's award did not exceed the scope of the parties' submission, and the trial court erred in ruling that it did.

C

Manifest Disregard of the Law

The defendant next claims that the trial court incorrectly concluded that the arbitrator manifestly disregarded the law when she distributed the equity in the marital home pursuant to Connecticut law. In response, the plaintiff argues that the arbitrator manifestly disregarded the law by not adhering to the choice of law provision in the premarital agreement, which she argues designated French law as governing the distribution of joint property. Because the arbitrator's determination was not an "egregious or patently irrational misperformance of duty"; (internal quotation marks omitted) *Saturn Construction Co.* v. *Premier Roofing Co.*, 238 Conn. 293, 308, 680 A.2d 1274 (1996); we agree with the defendant that the arbitrator did not manifestly disregard the law.

Manifest disregard of the law is an extremely deferential standard of review. "[T]he manifest disregard of the law ground for vacating an arbitration award is narrow and should be reserved for circumstances of an arbitrator's extraordinary lack of fidelity to established legal principles." (Internal quotation marks omitted.) *Garrity* v. *McCaskey*, supra, 223 Conn. 10. This level of deference is appropriate because the parties voluntarily have chosen arbitration as a means to resolve their legal dispute. See id., 4 ("[w]hen the parties agree to arbitration and establish the authority of the arbitrator through the terms of their submission, the extent of our judicial review of the award is delineated by the scope of the parties' agreement"); see also *Groton* v. *United Steelworkers of America*, 254 Conn. 35, 51–52, 757 A.2d 501 (2000) ("Voluntary arbitration is a method by which parties freely determine that their disputes will be resolved, at least in the first instance, not by public officials such as judges or administrators, but by arbitrators. Our legal system encourages that determination by ordinarily giving great deference to . . . both the factual and legal determinations of the arbitrators." (Citation omitted.)). As an essential component of that choice, they have agreed to bypass the usual adjudicative apparatus, including its conventional appellate features, for the advantages that accompany private arbitration. To borrow a phrase from the marriage ceremony, that choice is made "for better or for worse," which, in this context, means that the arbitrator's decision is final and binding unless it is manifestly, obviously, and indisputably wrong. Review by a judicial authority is not forfeited entirely, but it is conducted under a different and far less rigorous level of scrutiny.

Under this "highly deferential standard"; *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 102; our precedent instructs that three elements must be satisfied before we will "vacate an arbitration award on the

ground that the arbitration panel manifestly disregarded the law: (1) the error was obvious and capable of being readily and instantly perceived by the average person qualified to serve as an arbitrator; (2) the arbitration panel appreciated the existence of a clearly governing legal principle but decided to ignore it; and (3) the governing law alleged to have been ignored by the arbitration panel is [well-defined], explicit, and clearly applicable." (Internal quotation marks omitted.) *Norwalk Police Union, Local 1727, Council 15, AFSCME, AFL-CIO* v. *Norwalk*, 324 Conn. 618, 629, 153 A.3d 1280 (2017). "[E]very reasonable presumption and intendment will be made in favor of the [arbitration] award and of the arbitrators' acts and proceedings." (Internal quotation marks omitted.) *State* v. *Connecticut State Employees Assn., SEIU Local 2001*, supra, 287 Conn. 270.

These elements are not satisfied in the present case. This should come as no surprise to the parties in light of the nature of the legal issues that they agreed to have determined by the arbitrator—which include questions requiring the interpretation of an opaquely worded, French matrimonial contract that incorporates unfamiliar provisions of French law submitted to a sole arbitrator pursuant to an arbitration agreement, which itself employed inexact language providing that the arbitrator shall be "guided" by the relevant French law only in limited respects. Under these circumstances, each of the parties—knowing that litigation was impending—voluntarily accepted a real and substantial risk of being disappointed by an outcome with very limited opportunity for judicial review under the manifest disregard standard.

The premarital agreement provides that, "unless there is legal proof to the contrary . . . [r]eal property and business assets shall be presumed to belong to the one of the spouses in whose name the acquisition is made, and to both, if the acquisition is made in both

of their names." The arbitrator found that the parties' marital home was joint property under the premarital agreement because it was acquired in both parties' names and neither party had presented evidence to rebut the presumption of joint ownership. Because we do not review an arbitrator's award under an unrestricted submission for errors of law or fact; *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 80; we will not disturb the arbitrator's finding, uncontested by the parties, that there was no evidence directly or expressly rebutting the agreement's presumption of joint ownership; nor will we disturb the arbitrator's resulting classification of the home as joint property under the premarital agreement. The arbitrator's determination that the home equity was joint property under the premarital agreement demonstrated careful consideration of the terms of the agreement, aided, as the arbitrator deemed pertinent, by the testimony of the parties' expert witnesses on French law. The arbitration award did not constitute an "egregious or patently irrational rejection of clearly controlling legal principles" constituting a manifest disregard of the law. *Garrity* v. *McCaskey*, supra, 223 Conn. 11.

The plaintiff argues that the arbitrator manifestly disregarded the choice of law provision in the premarital agreement, which "designate[d], as the law to be applicable to their matrimonial regime, the French law . . . ."[26] Typically, a claim that the arbitrator has mani-

[26] The plaintiff also argues that the arbitrator manifestly disregarded the choice of law provision in the arbitration agreement. As we discussed in part III B of this opinion, the choice of law provision in the arbitration agreement was ambiguous and arguably inapplicable to the question of how to distribute joint property. For this reason, the provision was not "[well-defined], explicit, and clearly applicable"; (internal quotation marks omitted) *Norwalk Police Union, Local 1727, Council 15, AFSCME, AFL-CIO* v. *Norwalk*, supra, 324 Conn. 629; and any misapplication of the provision will not constitute a manifest disregard of the law. See *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 103–105 (arbitrator's interpretation of "patent ambiguity" in contract could not establish manifest disregard of law).

festly disregarded the law depends on some applicable statutory provision or common-law rule that the arbitrator is claimed to have egregiously ignored. See, e.g., *Board of Education* v. *New Milford Education Assn.*, 331 Conn. 524, 531, 205 A.3d 552 (2019) (claimed manifest disregard of collateral estoppel and res judicata doctrines); *Economos* v. *Liljedahl Bros., Inc.*, 279 Conn. 300, 308, 901 A.2d 1198 (2006) (claimed manifest disregard of Home Improvement Act, General Statutes § 20-429 (a)); *Saturn Construction Co.* v. *Premier Roofing Co.*, supra, 238 Conn. 305–306 (claimed manifest disregard of statutory notice requirement under General Statutes § 49-41a); *Garrity* v. *McCaskey*, supra, 223 Conn. 11–12 (claimed manifest disregard of federal and state statutes of limitations). Here, the plaintiff argues that the arbitrator manifestly disregarded a binding, contractual choice of law provision in the premarital agreement executed by the parties. We disagree that "[t]he exceptionally high burden for proving a claim of manifest disregard of the law under § 52-418 (a) (4)" is met in the present case. (Internal quotation marks omitted.) *State* v. *Connecticut State Employees Assn., SEIU Local 2001*, supra, 287 Conn. 280.

The arbitrator's decision to distribute the home equity pursuant to Connecticut law was based on two related determinations, namely, (1) her interpretation and application of the provisions in the premarital agreement governing the classification of the home as joint property, and (2) her conclusion that the separation of property "matrimonial regime" chosen by the parties did not designate French law to govern the distribution of joint property. The arbitrator identified a number of gaps in the premarital agreement that led her to conclude that it did not explicitly designate the law governing the distribution of joint property. The arbitrator noted that the premarital agreement specifically provided that "each party's separate property would remain

the separate property of its owner and belong exclusively to that party in the event of a dissolution of [the] marriage." The agreement, however, contained no equally explicit provision for the division of joint property. Indeed, the only other mention in the premarital agreement of how property would be treated upon the dissolution of the marriage appeared in a single paragraph, which provided: "At the time of the dissolution of the marriage, the spouses or their heirs and representatives shall take back all items for which they can prove being the owners by title, use, mark or invoice. All items over which no right of ownership can be proven shall be deemed to belong automatically and indivisibly to each one of the spouses, in equal parts." Thus, the premarital agreement provided for the distribution upon divorce of separate property and property for which no owner could be established but contained no similar provision regarding joint property.

Finding no explicit directive in the premarital agreement for the distribution of joint property upon divorce, the arbitrator then queried whether the agreement provided for a choice of law governing the distribution of joint property. The arbitrator explained: "The [premarital] agreement does . . . explicitly choose French law to govern the parties' relationship during the term of their marriage. In article I of [that] agreement, the parties 'designate[d], as the law to be applicable *to their matrimonial regime*, the French law,' and 'adopt[ed] as the basis for their union the regime of the separation of property, as . . . established by [the French Civil Code].' . . . During their marriage, the parties were to manage their property and answer for their own debts under the French regime of separation. . . . The [premarital] agreement does not, however, include a similar choice of law provision to govern the parties' joint property in the event of divorce." (Citations omitted; emphasis in original.) The arbitrator's conclusion that the

distribution of joint property upon dissolution was not a subject within the "matrimonial regime" referred to by the premarital agreement was supported in part by her finding that, "[h]istorically, [a French marital contract's] purpose was to govern the relationship of the spouses during their marriage and to make provisions for the eventuality of death—not the eventuality of divorce. Only in more recent times have French marital contracts also been used to define the rights of the spouses in the event of either death or divorce." The uncertainty of the historical tradition, when combined with the textual ambiguity in the premarital agreement itself, undermines the plaintiff's claim of manifest error.

The plaintiff claims that the arbitrator improperly construed the choice of law provision in the premarital agreement to be inapplicable to the distribution of joint property upon dissolution of the parties' marriage. Essentially, the plaintiff takes issue with the arbitrator's interpretation of the meaning and extent of the "matrimonial regime" by which the parties intended to be governed under the premarital agreement. It is well established, however, that mere disagreement with the arbitrator's interpretation of an agreement falls far short of establishing a manifest disregard of the law. See *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 103–104 ("[T]he defendant's claim is predicated largely on the arbitrators' interpretation of the agreement and factual findings . . . . [T]hese issues are beyond the scope of our review." (Footnote omitted.)); *Saturn Construction Co.* v. *Premier Roofing Co.*, supra, 238 Conn. 308 ("[a] party's mere disagreement with the panel's interpretation and application of established legal principles is a far cry from the egregious or patently irrational misperformance of duty that must be shown in order to prove a manifest disregard of the law under § 52-418 (a) (4)" (internal quotation marks omitted)).

The deference owed to the arbitrator's decision is not defeated, even if the losing party's preferred interpretation finds substantial support upon a close analysis of the controlling legal principles at issue. In other words, the plaintiff does not satisfy the manifest disregard standard simply by persuading us that the arbitrator misinterpreted the choice of law provision in the premarital agreement.[27] See *State* v. *Connecticut State Employees Assn., SEIU Local 2001*, supra, 287 Conn. 281 ("even if the arbitrator's decision constitutes a misapplication of the relevant law, we are not at liberty to set aside an [arbitrator's] award because of an arguable difference regarding the meaning or *applicability* of laws" (emphasis in original; internal quotation marks omitted)); *Garrity* v. *McCaskey*, supra, 223 Conn. 11–12 ("[W]e do not review an arbitrator's decision merely for errors of law . . . . Even if the arbitrators were to have misapplied the [applicable law], such a misconstruction of the law would not demonstrate the arbitrators' egregious or patently irrational rejection of clearly controlling legal principles."). This deference follows from our narrowly confined review of arbitration awards. *Harty* v. *Cantor Fitzgerald & Co.*, supra, 275 Conn. 80. The parties bargained for arbitration and established the authority of the arbitrator through their submission. We will not substitute our interpretation of the premarital agreement for that of the arbitrator. See, e.g., *Oxford Health*

[27] Although it is not the case here, a situation could arise in which an arbitrator's interpretation of a contract provision constitutes a manifest disregard of the law. See, e.g., *Westerbeke Corp.* v. *Daihatsu Motor Co., Ltd.*, 304 F.3d 200, 214 (2d Cir. 2002) ("[u]nless [the respondent] can show that the arbitrator manifestly disregarded a clearly applicable and explicit principle of contract construction in reading [the contract], we will not disturb the arbitrator's contractual interpretation"); *Yusuf Ahmed Alghanim & Sons, W.L.L.* v. *Toys "R" Us, Inc.*, 126 F.3d 15, 25 (2d Cir. 1997) ("[w]e will overturn an award [when] the arbitrator merely mak[es] the right noises—noises of contract interpretation—while ignoring the clear meaning of contract terms" (internal quotation marks omitted)), cert. denied, 522 U.S. 1111, 118 S. Ct. 1042, 140 L. Ed. 2d 107 (1998).

Plans, *LLC* v. *Sutter*, 569 U.S. 564, 573, 133 S. Ct. 2064, 186 L. Ed. 2d 113 (2013) ("The arbitrator did what the parties requested: He provided an interpretation of the contract resolving [their dispute]. His interpretation went against [the petitioner], maybe mistakenly so. But still, [the petitioner] does not get to rerun the matter in a court. . . . [T]he question for a judge is not whether the arbitrator construed the parties' contract correctly, but whether he construed it at all."); *State* v. *New England Health Care Employees Union, District 1199, AFL-CIO*, 265 Conn. 771, 780, 830 A.2d 729 (2003) ("[I]t was incumbent upon the arbitrator to interpret the relevant language. Although the plaintiff and the trial court may disagree with the arbitrator's ultimate interpretation of that section . . . it is the arbitrator's judgment that was bargained for . . . and we do not substitute our own judgment merely because our interpretation of the agreement or contract at issue might differ from that of the arbitrator." (Internal quotation marks omitted.)).

To meet the applicable standard, the error must be obvious by reference to explicit and clearly applicable law. *Norwalk Police Union, Local 1727, Council 15, AFSCME, AFL-CIO* v. *Norwalk*, supra, 324 Conn. 629. The plaintiff's preferred interpretation in this case may be correct, but it is not *obviously* correct based on the *explicit* requirements of the premarital agreement or French law. The ambiguities in the premarital agreement go to the heart of the required distribution of joint property upon divorce, making the proper distribution of that property far from obvious. To summarize, the premarital agreement explicitly provided for the distribution upon divorce of separate property and property for which ownership could not be established, but it was conspicuously silent on the distribution of joint property upon divorce. The premarital agreement declared that French law governed their "matrimonial

regime" but left the meaning of this critical term undefined. In light of these ambiguities, any error that may have been made by the arbitrator in distributing the equity in the marital home did not amount to an "egregious or patently irrational misperformance of duty"; (internal quotation marks omitted) *Saturn Construction Co.* v. *Premier Roofing Co.*, supra, 238 Conn. 308; that would permit a court to vacate the arbitration award.

IV

ISSUES RELATED TO CHILD SUPPORT

Finally, the defendant claims that the trial court improperly vacated the arbitration award on the ground that the award included issues related to child support in violation of §§ 46b-66 (c) and 52-408. See footnotes 6 and 7 of this opinion. Alternatively, the defendant claims that, even if the trial court correctly concluded that the award violated §§ 46b-66 (c) and 52-408, the portion of the award related to child support was severable from the remainder of the award. The plaintiff responds that the trial court correctly concluded that the award violated §§ 46b-66 (c) and 52-408 and argues that the portion of the award related to child support was not severable. We agree with the plaintiff that the trial court correctly determined that the award violated §§ 46b-66 (c) and 52-408 but conclude that the portion of the award related to child support was severable from the remainder of the award.

A number of the provisions in the award directly concerned the care and support of the parties' children.[28] The award allocated the payment of child care

[28] We do not suggest that it was the arbitrator's intention to disregard the statutes prohibiting the arbitration of issues related to child support. It appears from the record that the parties actually induced this error, if inadvertently so. The parties initially desired an unallocated award of alimony and child support and, therefore, requested the arbitrator to include child support in an unallocated award in a manner that would not violate §§ 46b-66 (c) and 52-408. To that end, on October 13, 2017, the parties submitted a stipulation to the court in which they recognized that "§ 46b-

66 (c) (2) provides that the arbitrator may not arbitrate child support." The stipulation also provided that the parties had filed financial affidavits and calculated the child support presumptive minimum to be $714 per week paid by the defendant to the plaintiff pursuant to the state's child support guidelines. The stipulation further provided: "The parties agree to this child support minimum and to submit the balance of the issues (except for child support) to the arbitrator to include [in] her issuance of orders regarding the parties' incomes and an unallocated alimony and child support order that shall not be less than the child support minimum pursuant to the child support guidelines referenced herein and in the guidelines attached hereto."

In attempting to explain this unusual stipulation to the trial court, the following colloquy took place:

"[The Plaintiff's Counsel]: This is an agreement that the parties have reached . . . along with [the arbitrator's] help because we cannot, under the statute, arbitrate issues of child support. So, we've reached an agreement in regards to what at least the presumptive minimum of child support is. We're asking the court to accept that. This way, [the arbitrator] doesn't have to get into that area of inquiry.

* * *

"The Court: You know, I don't understand this because you're reserving the right to go back to square one in the first place.

"[The Defendant's Counsel]: We're going—we're moving forward on an unallocated order, Judge. And this allows us to—

"The Court: No, I understand. But you're reserving the right—you understand what I'm saying? . . .

"[The Plaintiff's Counsel]: Our expectation is that [the arbitrator is] going to assist [the] parties in making determinations of income [that] ultimately will be binding on them to be able to plug the income in the child support guideline calculation. . . .

"The Court: Oh, I see. Because she's going to do an unallocated order.

"[The Defendant's Counsel]: Correct.

* * *

"[The Plaintiff's Counsel]: [W]e're trying to eliminate the arbitrator [from having] anything to do with child support. That's why we're providing the stipulation to the court. . . .

"The Court: I'm not going to debate it with you. I don't see any real problem except down the road, maybe. Because it's an unallocated order, so [the arbitrator] is ordering child support.

"[The Plaintiff's Counsel]: Not necessarily, because she's going to take the presumptive minimum that we're asking the court to . . . order right now.

"The Court: That doesn't shield her from—protect her from entering an unallocated order, does it?

"[The Plaintiff's Counsel]: No, but she's going to take this child support order, which we're asking the court to approve and make an order of the court, and apply that into her order. So, she herself is not making any child support determination.

"The Court: Yeah. Oh, so, when she gives the unallocated order of alimony and child support, it's known because of your stipulation here that it's really an alimony order.

"[The Plaintiff's Counsel]: Correct.

* * *

"The Court: Well, for the record, for what it's worth, the court accepts the stipulation pendente lite but makes no indication that it will be supported if it's appealed. . . .

expenses, health insurance and health expenses for the children, and the children's extracurricular expenses, and required the defendant to maintain life insurance for the benefit of the children.[29] The defendant does not claim that the trial court incorrectly concluded that these were "issues related to child support" prohibited under §§ 46b-66 (c) and 52-408. Instead, the defendant claims that the inclusion of issues related to child support could be challenged only under the common-law, public policy grounds for vacating an award and that the plaintiff waived and should be estopped from chal lenging the award on those grounds. We are not persuaded.

To address the defendant's argument, we must determine whether the prohibition on the inclusion of child support in arbitration awards under §§ 46b-66 (c) and 52-408 is capable of being waived by a party to an arbitration. "Waiver is the intentional relinquishment or

"[The Plaintiff's Counsel]: All we need is . . . an order of the court, Your Honor. That's all we're asking for at this point in time.

"The Court: Fine. So ordered."

[29] The award provided in relevant part: "17. The plaintiff shall pay 27 percent and the defendant shall pay 73 percent of the minor children's health expenses not paid by insurance. Health expenditures shall be broadly construed to include medical, dental, orthodontics, optical and optometric and mental health care. All nonemergency, elective care shall be agreed to in writing in advance. In-network providers shall be used unless the parties agree otherwise.

"18. The plaintiff shall pay 27 percent and the defendant shall pay 73 percent of qualifying child care necessary for the plaintiff's employment.

"19. The minor children's extracurricular expenses that are agreed to in writing by the parties before they are incurred or committed to shall be divided 73 percent to be paid by the defendant and 27 percent to be paid by the plaintiff.

* * *

"27. The defendant shall maintain $600,000 life insurance for the benefit of the plaintiff to secure his alimony obligation; he may reduce it by one-sixth every year commencing January 1, 2019. The defendant shall maintain $400,000 life insurance for the benefit of the minor children so long as he has a child support obligation; he may reduce it by $40,000 annually commencing January 1, 2019. The children or a trust benefitting the children shall be named the death benefit beneficiary. Inasmuch as no educational support order is issuing at this time, no life insurance is currently required of either party to secure the same. . . ."

abandonment of a known right or privilege. . . . As a general rule, both statutory and constitutional rights and privileges may be waived." (Citations omitted; internal quotation marks omitted.) *Pereira* v. *State Board of Education*, 304 Conn. 1, 39–40, 37 A.3d 625 (2012). However, "only the party who benefits from or is protected by the right may waive that right. . . . Parties may not waive statutory rights [when] a question of public policy is involved. Likewise, a law established for a public reason cannot be waived or circumvented by a private act or agreement." (Citations omitted; internal quotation marks omitted.) Id., 40.

As we stated in part I of this opinion, §§ 46b-66 (c) and 52-408 prohibit the inclusion of issues related to child support in arbitration awards. On the face of these statutes, it is clear that the prohibition is not intended to safeguard the rights of the parties to the arbitration in a marital dissolution action but to protect the rights of their nonparty children. "[T]he fundamental purpose of child support . . . is to provide for the care and well-being of minor children . . . ." (Internal quotation marks omitted.) *Tomlinson* v. *Tomlinson*, 305 Conn. 539, 555, 46 A.3d 112 (2012). Thus, the "[statutory] duty on divorced parents to support the minor children of their marriage . . . creates a corresponding *right in the children* to such support." (Emphasis added; internal quotation marks omitted.) Id. By reserving the issue of child support for determination by the trial court, which must by law consider the state's child support guidelines; *Tuckman* v. *Tuckman*, supra, 308 Conn. 205; the legislature ensured fidelity to these vital interests. See, e.g., *Kirwan* v. *Kirwan*, supra, 185 Conn. App. 733 ("although binding arbitration may be utilized to resolve many types of issues arising in the course of civil litigation, including in a marital dissolution action, the legislature concluded, as a matter of public policy, that issues involving custody, visitation, and child support must be resolved only by a court").

In light of these well established purposes behind the child support statutes, the statutory prohibition on the arbitration of issues related to child support "serves important public and institutional policy objectives that are independent of, and perhaps even paramount to, [the plaintiff's] interest as a party to the litigation." (Emphasis omitted.) *Santiago* v. *State*, 261 Conn. 533, 543–44, 804 A.2d 801 (2002). The right to a child support determination that "provide[s] for the care and well-being of minor children"; (internal quotation marks omitted) *Tomlinson* v. *Tomlinson*, supra, 305 Conn. 555; was not the plaintiff's to waive. Cf. *State* v. *Banks*, 321 Conn. 821, 856, 146 A.3d 1 (2016) (*Rogers*, *C. J.*, concurring) ("I find it extremely doubtful . . . that the state could waive the [statutory] requirement that [currently incarcerated felons] submit to the taking of a DNA sample, which serves important public . . . policy objectives" (internal quotation marks omitted)). The plaintiff did not, and could not, waive the statutory prohibition against the arbitration of issues related to child support.

Even so, the portion of the award that included issues related to child support was severable from the remainder of the award. "We previously have characterized the financial orders in dissolution proceedings as resembling a mosaic, in which all the various financial components are carefully interwoven with one another. . . . Accordingly, when an appellate court reverses a trial court judgment based on an improper alimony, property distribution, or child support award, the appellate court's remand typically authorizes the trial court to reconsider all of the financial orders. . . . We also have stated, however, that [e]very improper order . . . does not necessarily merit a reconsideration of all of the trial court's financial orders. A financial order is severable when it is not in any way interdependent with other orders and is not improperly based on a factor that is linked to other factors. . . . In other words, an

order is severable if its impropriety does not place the correctness of the other orders in question. . . . Determining whether an order is severable from the other financial orders in a dissolution case is a highly fact bound inquiry." (Citations omitted; internal quotation marks omitted.) *Tuckman* v. *Tuckman*, supra, 308 Conn. 214. We previously have explained that an invalid portion of an arbitration award may be severed from the remainder of the award. See *Bodner* v. *United Services Automobile Assn.*, 222 Conn. 480, 489, 610 A.2d 1212 (1992) ("[when] specific questions have been submitted to the arbitrators, we have held that the portion of the arbitrators' award that was entirely outside the submission was void"); *Local 63*, *Textile Workers Union of America, C.I.O.* v. *Cheney Bros.*, 141 Conn. 606, 619, 109 A.2d 240 (1954) ("when an arbitrator exceeds his authority, the award is void only to the extent that he does so, if the part [that] is void can be separated from the rest without injustice and without affecting the merits of the part of the award [that] is within the submission"), cert. denied, 348 U.S. 959, 75 S. Ct. 449, 99 L. Ed. 748 (1955), and cert. denied, 348 U.S. 959, 75 S. Ct. 450, 99 L. Ed. 478 (1955); *Parmelee* v. *Allen*, 32 Conn. 115, 116 (1864) ("[i]f several distinct matters are submitted [to arbitration], the award as to some of them may be good while it is void as to the residue").

Nothing in the arbitrator's award indicates that the orders related to child support are interdependent with the other financial orders. Indeed, the parties stipulated to a child support presumptive minimum *before* entering arbitration and had this amount entered as a separate order of the court, as the arbitrator referenced in her award. We conclude that the portion of the arbitration award pertaining to child care expenses, child related health expenses, extracurricular expenses, and the maintenance of life insurance for the benefit of the children is severable from the alimony, property division, and other unrelated financial orders in the award.

See *Misthopoulos* v. *Misthopoulos*, 297 Conn. 358, 390, 999 A.2d 721 (2010) (remanding for reconsideration of child support orders alone); *Maturo* v. *Maturo*, supra, 296 Conn. 125 (same); *Kavanah* v. *Kavanah*, 142 Conn. App. 775, 785, 66 A.3d 922 (2013) (same).

The judgment is reversed insofar as the trial court granted the plaintiff's motion to vacate and denied the defendant's application to confirm that portion of the arbitration award relating to the division between the parties of the equity in the marital home; the judgment is affirmed insofar as the trial court granted the plaintiff's motion to vacate and denied the defendant's application to confirm that portion of the arbitration award relating to child support; the case is remanded with direction to render judgment (1) granting the plaintiff's motion to vacate the arbitration award insofar as it included orders related to child support but denying the motion to vacate the award in all other respects, and (2) denying the application to confirm that portion of the arbitration award relating to child support but granting the application to confirm the award in all other respects.

In this opinion the other justices concurred.

STATE OF CONNECTICUT *v.* LUIS M. RODRIGUEZ
(SC 20372)

Robinson, C. J., and Palmer, McDonald, D'Auria, Mullins, Kahn and Ecker, Js.*

Syllabus

Convicted, after a jury trial, of sexual assault in the first degree and criminal attempt to commit sexual assault in the first degree, the defendant appealed. The defendant's conviction stemmed from an incident in which two Hispanic men pulled a woman, who was walking on a street in New Britain, into the backseat of their car and sexually assaulted her.

* The listing of justices reflects their seniority status on this court as of the date of oral argument.

Approximately ten years after the incident, the defendant became a person of interest based on a match between the DNA sample that had been extracted from the victim's sexual assault evidence kit and a sample of the defendant's DNA that had been placed into a database at some point after the victim's assault. The police interviewed the defendant, and he denied that the incident in question occurred but consented to the taking of a buccal swab, which the police submitted to the state forensic laboratory for analysis. The laboratory subsequently reported a match between the DNA from the defendant's buccal swab and that taken from the victim's sexual assault evidence kit, and the police interviewed the defendant again. During the second interview, the defendant admitted that he did have a threesome after he picked up a man and a woman near an automobile parts store. At trial, three laboratory reports analyzing the DNA samples were introduced into evidence through the testimony of P, a forensic science examiner with the state forensic laboratory. The first of the three reports was produced in 2007 and described the results of the victim's sexual assault evidence kit. The second and third reports were produced in 2016 and were based on comparisons of the DNA samples from the sexual assault evidence kit and the defendant's buccal swab. P testified regarding the procedures used to test the DNA evidence and the results contained in the three reports. The third and final report analyzed the sperm-rich and epithelial-rich fractions of the vaginal, oral and genital swabs, including a 2016 reworking of the sperm-rich fraction of the vaginal swabs, and the defendant's buccal swab. That report concluded that the defendant was a potential contributor to the DNA profile from the sperm-rich fraction of the vaginal swabs and that the expected frequency of individuals who could be a contributor to that DNA profile was approximately 1 in 230,000 in the Hispanic population. On appeal from the judgment of conviction, the defendant claimed, inter alia, that the trial court had violated his right to confrontation by allowing P to testify about the results of the DNA identification analysis without requiring testimony from the individual who generated the DNA profiles. *Held*:

1. The defendant's unpreserved claim that the trial court violated his right to confrontation failed under *State* v. *Golding* (213 Conn. 233) because it was unclear whether the 2016 retesting of the vaginal swab was performed by someone other than P, and, therefore, the record was inadequate to establish whether a violation of the defendant's right to confrontation occurred.
2. The defendant could not prevail on his unpreserved claim that his due process right was violated by the introduction of DNA identification evidence that was unreliable: the defendant failed to establish a constitutional violation under *Golding* because the jury was presented with evidence that there was a genetic profile match and the statistical rarity of the match, P explained the statistical method she used to determine the rarity of the match, and defense counsel had the opportunity to cross-examine P, present his own statistical evidence, or request a jury

instruction; moreover, this court declined the defendant's invitation to exercise its supervisory authority to require trial courts to instruct juries on the meaning of random match probability when DNA evidence is the only evidence identifying the defendant as the perpetrator.

3. There was no merit to the defendant's claim that a random match probability of 1 in 230,000 in the Hispanic population, by itself, was insufficient to prove that he was guilty beyond a reasonable doubt; the evidence establishing the identity of the defendant was not based on DNA evidence alone, as the video recordings of the defendant's two interviews with the police, which were played for the jury and which included inconsistent statements that indicated the defendant's consciousness of guilt, provided additional evidence to establish the defendant's guilt beyond a reasonable doubt.

(One justice concurring separately)

Argued December 19, 2019—officially released September 24, 2020**

Procedural History

Substitute information charging the defendant with two counts of the crime of sexual assault in the first degree and one count of criminal attempt to commit sexual assault in the first degree, brought to the Superior Court in the judicial district of New Britain and tried to the jury before *Dewey*, *J.*; verdict and judgment of guilty, from which the defendant appealed. *Affirmed.*

Mark Rademacher, assistant public defender, for the appellant (defendant).

Timothy J. Sugrue, assistant state's attorney, with whom, on the brief, were *Brian W. Preleski*, state's attorney, and *Brett J. Salafia*, senior assistant state's attorney, for the appellee (state).

Opinion

McDONALD, J. The defendant, Luis M. Rodriguez, appeals from the judgment of conviction, rendered after a jury trial, of two counts of sexual assault in the first degree and one count of criminal attempt to commit sexual assault in the first degree. The defendant claims

** September 24, 2020, the date that this decision was released as a slip opinion, is the operative date for all substantive and procedural purposes.

that (1) the trial court violated his right to confrontation, as articulated in *Crawford* v. *Washington*, 541 U.S. 36, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004), by allowing a laboratory analyst to testify about the results of a DNA identification analysis without requiring testimony from the individual who generated the DNA profiles, (2) his due process right was violated by the introduction of DNA identification evidence that was unreliable under *Manson* v. *Brathwaite*, 432 U.S. 98, 97 S. Ct. 2243, 53 L. Ed. 2d 140 (1977), because of the danger that the jury would not understand the meaning of random match probability, and (3) the evidence is insufficient to sustain his conviction. We disagree and, accordingly, affirm the judgment of the trial court.

The record reveals the following facts, which the jury reasonably could have found, and procedural history. In the early morning, the victim[1] was walking from her residence on Martin Luther King Drive in New Britain to a nearby convenience store. Near Lafayette and Beaver Streets, a gold, four door sedan with two male occupants stopped and asked the victim if she knew where they could buy cocaine. The victim told the men that she did not know, and they drove away. Less than five minutes later, the men returned, and one of them pulled the victim into the backseat with him. After driving for between ten and fifteen minutes, the vehicle stopped at an abandoned housing complex. The driver got into the backseat, and the victim sat between the two men. The victim testified that both men were Hispanic, one man "was kind of thin and the other one was kind of heavy," and both spoke Spanish to each other during the attack.

After the men removed, or had the victim remove, her clothing, "[t]hey started putting their fingers . . . [i]nto [her] vagina" against her will. The thin man

[1] In accordance with our policy of protecting the privacy interests of the victims of sexual assault, we decline to identify the victim or others through whom the victim's identity may be ascertained. See General Statutes § 54-86e.

engaged in forcible penile-vaginal intercourse with the victim, made her perform oral sex on him, and "was pretty much done with [her] within probably about five minutes . . . ." The heavier man could not maintain an erection, and he forced the victim to perform oral sex and forcibly digitally penetrated her vagina. Thereafter, the heavier man pulled the victim out of the car by her hair and ejaculated while "rubbing his penis up against the inside of [the victim's] thigh."

After the assault, the two men drove away, and the victim "walked quite a ways" and came upon a house. The occupant of the house, Juanita Isaacs, testified that the victim banged on her door and asked Isaacs for help, telling her that she had been raped. Isaacs called the police, Officer Alan Vincent Raynis, Jr., of the New Britain Police Department responded, and the victim told him what happened. Raynis took the victim back to the scene of the crime, where he took several photographs and seized a pair of jeans, a sports brassiere, and panties.

The victim was transported to New Britain General Hospital, where she was examined, and a sexual assault evidence kit was processed. The examining nurse swabbed the victim's vaginal and oral cavities, the exterior surface of her genitalia, and her inner thigh to collect any biological material that could be used to identify the perpetrators. Raynis collected the kit and submitted it to the state forensic laboratory for analysis. Thereafter, the victim provided the police with a sworn, written statement regarding the incident.

The laboratory staff found sperm in the vaginal smear and genital swabs. The staff did not find sperm on the oral sample, but other tests revealed the presence of human seminal fluid protein. The laboratory staff extracted DNA from the evidentiary materials and searched it against DNA contained in the Combined

DNA Index System (CODIS).[2] No matching profiles were found.

Approximately ten years later, the defendant became a person of interest in the sexual assault based on a CODIS match between the evidentiary DNA sample that had been extracted from the victim's sexual assault evidence kit and a sample of the defendant's DNA that had been placed into CODIS at some point after the victim's assault. In August, 2016, a detective from the New Britain Police Department interviewed the defendant. The detective informed the defendant that he was a suspect in a sexual assault involving two men and a woman. The defendant denied having had sex in a threesome, which he described as disgusting, and said he did not allow women in his car. The defendant also described to the police vehicles that he previously owned, which did not include a gold, four door sedan, and informed the police that he currently did not have any car registered in his name. The defendant then consented to the taking of a buccal swab, which the police submitted to the laboratory for analysis.

Several months later, the laboratory reported a match between the DNA from the defendant's buccal swab and that taken from the victim's sexual assault evidence kit. In December, 2016, the police again spoke with the defendant. The detective informed the defendant that his DNA was found in the vaginal sample from the victim. Contrary to his previous statement to the police, the defendant admitted that he did have a threesome on two occasions in hotels in Plainville and on the Berlin Turnpike. He stated that one incident involved a "skinny, Puerto Rican" girl and occurred when he picked up a man and a woman near an AutoZone store and dropped them off at a store on Broad Street in New

[2] CODIS contains DNA profiles from unsolved crimes and compares them to known samples from convicted felons that are periodically added to the database. See, e.g., *State* v. *Webb*, 128 Conn. App. 846, 852–53 n.3, 19 A.3d 678, cert. denied, 303 Conn. 907, 32 A.3d 961 (2011).

Britain. The detective also informed the defendant that, in addition to the assault, the victim complained of being robbed of several hundred dollars, and the defendant replied with words to the effect of: "That's not me. It's the other guy."

The defendant was arrested and charged in the operative information with two counts of sexual assault in the first degree and one count of criminal attempt to commit sexual assault in the first degree. The trial commenced in March, 2018. At trial, three laboratory reports analyzing the DNA samples were introduced into evidence through the testimony of Angela Przech, a forensic science examiner with the laboratory, whose testimony and related evidence are the subject of the defendant's confrontation and due process claims. First, the state introduced a laboratory report dated November 26, 2007, that describes the results of the sexual assault evidence kit. The report indicates that the laboratory tested the vaginal, oral, and genital swabs, and it states that the material on the swabs was divided into sperm-rich and epithelial-rich fractions, all of which yielded DNA.[3] The report further states that item number 1E, the oral swabs, and item number 1I, the genital swabs, "were consumed in testing," and that the balance of item number 1C, the vaginal swabs, "was retained in the laboratory." The report notes that the extracted DNA profiles of item numbers 1I and 1C were entered into CODIS for comparison and no matches were reported at the time the report was issued. The report was signed by Przech and Melanie G. Ktorides, a forensic science examiner.

Second, over the state's relevance objection, the defendant introduced into evidence an unofficial laboratory report dated September 12, 2016, which was

[3] Because it is preferable to analyze a profile of the semen sample alone, Przech explained that, before the DNA is separated from the samples, the epithelial—or skin—cells are separated from the sperm cells.

marked "DNR" for "do not report" and was never officially released. It indicates that the laboratory tested the sperm-rich and epithelial-rich fractions of the vaginal, oral and genital swabs, as well as the defendant's 2016 buccal swab. The unofficial report concluded that the defendant "is included as a potential contributor to the DNA profile" from the sperm-rich fraction of the vaginal swabs. It states that the "expected frequency of individuals who could be a contributor to the DNA profile . . . from [the sperm-rich fraction of the vaginal swabs] is . . . approximately 1 in 4.9 in the Hispanic population."[4] The report was signed by Przech, as the analyst, and a technical reviewer.

Finally, the state introduced a laboratory report dated December 16, 2016. Similar to the September, 2016 report, the December report analyzed the sperm-rich and epithelial-rich fractions of the vaginal, oral and genital swabs, as well as the defendant's 2016 buccal swab. It also added three new items of evidence to the list, including "[item number] 1C [v]aginal [s]wabs," and noted that this item had been separated into sperm-rich and epithelial-rich fractions. The report concluded that the sperm-rich fraction of the vaginal swabs was a mixture, and the defendant "is included as a potential contributor to the DNA profile . . . ." Unlike the September, 2016 report, however, the December, 2016 report concluded that the "expected frequency of individuals who could be a contributor to the DNA profile . . . from [the sperm-rich fraction of the vaginal swabs] is . . . approximately 1 in 230,000 in the Hispanic population."[5] The report was again signed by Przech, as the analyst, and a technical reviewer.

[4] The unofficial report also concludes that the expected frequency of individuals who could be a contributor to the DNA profile from the sperm-rich fraction of the vaginal swabs is "approximately 1 in 4.9 in the [African-American] population" and "approximately 1 in 3.3 in the Caucasian population . . . ."

[5] The December, 2016 report also concludes that the expected frequency of individuals who could be a contributor to the DNA profile from the sperm-

At trial, Przech testified regarding the procedures used to test the DNA evidence and the results contained in her three reports. Specifically, she testified that, in 2007, the laboratory used a DNA testing kit called Identifiler to develop the DNA profiles from the sexual assault evidence kit and produced the November, 2007 report. She explained that the laboratory had successfully separated sperm cells from epithelial cells in the various evidentiary samples.

Przech further testified that, in 2016, the New Britain Police Department submitted a known buccal swab of a suspect in the case to the laboratory for comparison with the evidentiary DNA that had been extracted in 2007. She explained that, rather than having an analyst physically process the defendant's buccal swab, the laboratory processed it via "an automated procedure" in which "a robot" extracts and processes DNA from the known buccal sample. Przech compared the defendant's DNA profile to the profiles that had been extracted from the evidentiary swabs in 2007 and concluded that the defendant was a "potential contributor" to the DNA mixture that had been extracted from the sperm-rich fraction of the vaginal swabs.

Przech testified that the December, 2016 report set forth her conclusions regarding the comparison of the defendant's buccal swab and the DNA taken from the sexual assault evidence kit. She explained that, prior to the creation of the December, 2016 report, her technical leader requested that "additional work be done with the sample in order to make sure that there was a fully developed profile, and it was to the standard that was required in 2016 and not the standard that was required in [2007]." Przech clarified that the unofficial report from September, 2016, "is not an official report gener-

rich fraction of the vaginal swabs is "approximately 1 in 2.1 million in the [African-American] population" and "approximately 1 in 120,000 in the Caucasian population . . . ."

ated. [These are] case notes within [her] case jacket that are clearly marked DNR, which is do not report. . . . No, [this is not an official report]; this is not a report at all. It never went out. It never went to the . . . [New Britain Police Department]. So, it's considered case notes within [her] case jacket."

On redirect examination, Przech further explained that the sperm-rich fraction of the vaginal swabs was "rework[ed]" in 2016 to comply with contemporary interpretations of the rules relating to statistical analyses. Przech explained that she "chose not to issue [the unofficial, September, 2016] report because the information that was there was not complete according to our rules for 2016 statistic[al] [data] generation," which required taking into account "many different parts of the profile that we didn't have to consider in 2007." Because there was not a complete profile, the unofficial, September, 2016 report did not give "the whole story," and Przech's technical leader requested that the sperm-rich vaginal swab be "amplified more and [Przech] can develop a different profile and get better results. [The] sample that [Przech] had in 2007 wasn't complete." Przech reworked the sample using a new kit, called Identifiler Plus, which was more sensitive than the earlier kit to degraded DNA and also to inhibitors, such as bacteria, that could be found in a sample. Finally, she explained that "the [September, 2016] report that was DNR, that never went out, that sample for [item number] 1CB [the sperm-rich fraction of the vaginal swabs] was a different profile than the one that was issued [i]n [the December, 2016 report] . . . . So, they are two different profiles."

Following the trial, the jury found the defendant guilty on all counts. The defendant was sentenced to a total effective sentence of thirty years incarceration. He appealed from the judgment of conviction to the Appellate Court, and the appeal was transferred to this court. Additional facts will be set forth as necessary.

I

We first consider the defendant's claim that the trial court violated his right to confrontation, as articulated in *Crawford* v. *Washington*, supra, 541 U.S. 36, by allowing Przech to testify about the results of the DNA identification analysis without requiring testimony from the individual who generated the DNA profiles. Specifically, the defendant contends that, during questioning about the disparate statistical results presented in the two 2016 reports, Przech testified that she did not conduct the testing underlying those reports. Rather, the defendant argues, Przech used the unnamed analyst's data to deduce the characteristics and sources of the DNA profiles. The defendant concedes that he did not preserve this claim properly at trial and seeks review under *State* v. *Golding*, 213 Conn. 233, 239–40, 567 A.2d 823 (1989), as modified by *In re Yasiel R.*, 317 Conn. 773, 781, 120 A.3d 1188 (2015).[6] The state contends that the record is inadequate to establish factually whether a confrontation right violation occurred. We agree with the state.[7]

At the outset, we note that the defendant's claim is not based on any of the 2007 testing because, as the defendant acknowledges, "Przech did not use the testing in 2007 of the . . . vaginal sample to identify the defendant

[6] *Golding* provides that a defendant may prevail on an unpreserved claim when "(1) the record is adequate to review the alleged claim of error; (2) the claim is of constitutional magnitude alleging the violation of a fundamental right; (3) the alleged constitutional violation . . . exists and . . . deprived the defendant of a fair trial; and (4) if subject to harmless error analysis, the state has failed to demonstrate harmlessness of the alleged constitutional violation beyond a reasonable doubt." (Footnote omitted.) *State* v. *Golding*, supra, 213 Conn. 239–40; see *In re Yasiel R.*, supra, 317 Conn. 781 (modifying third prong of *Golding* by eliminating word "clearly" before "exists" and "deprived").

[7] We note that the issues raised in the concurring opinion are beyond the scope of this appeal. Accordingly, we express no opinion on the merits of that opinion.

as the assailant." It also is not based on the admission of the evidence of the DNA profile generated from the defendant's buccal swab in 2016, which was extracted in the automated process that Przech described.[8] Finally, the defendant makes no claim that his confrontation right was violated by his own admission of the unofficial, September, 2016 report into evidence. Rather, the defendant asserts that it is the admission of the DNA identification evidence contained in the December, 2016 report and Przech's corresponding testimony that violated his confrontation right because someone other than Przech performed the 2016 retesting of the vaginal sample.

Because the defendant seeks *Golding* review of this unpreserved claim, we begin by determining whether this claim is reviewable. "The first two [prongs of *Golding*] involve a determination of whether the claim is reviewable . . . ." (Internal quotation marks omitted.) *State* v. *Peeler*, 271 Conn. 338, 360, 857 A.2d 808 (2004), cert. denied, 546 U.S. 845, 126 S. Ct. 94, 163 L. Ed. 2d 110 (2005). Under the first prong of *Golding*, for the

[8] In his original brief, the defendant concedes that he does not "dispute that the analyst who generated the profile from a single source, known sample, such as a buccal swab from the defendant, may not need to testify." Nevertheless, in his reply brief and at oral argument, the defendant attempts to raise this issue, claiming that the analyst who tested the known buccal sample from the defendant must testify at trial. We note that Przech's limited testimony on this point indicated that the buccal swab was processed in "an automated procedure," and, rather than having an analyst physically process the sample, "a robot actually does it." Moreover, as we have repeatedly explained, "[i]t is axiomatic that a party may not raise an issue for the first time on appeal in [his] reply brief. . . . Our practice requires an appellant to raise claims of error in his original brief, so that the issue as framed by him can be fully responded to by the appellee in its brief, and so that we can have the full benefit of that written argument. Although the function of the appellant's reply brief is to respond to the arguments and authority presented in the appellee's brief, that function does not include raising an entirely new claim of error." (Citations omitted; internal quotation marks omitted.) *Crawford* v. *Commissioner of Correction*, 294 Conn. 165, 197, 982 A.2d 620 (2009). We therefore decline to review the defendant's belated claim relating to the testing of the known buccal swab.

record to be adequate for review, the record must contain sufficient facts to establish that a violation of constitutional magnitude has occurred. See, e.g., *State* v. *Brunetti*, 279 Conn. 39, 55–56, 901 A.2d 1 (2006), cert. denied, 549 U.S. 1212, 127 S. Ct. 1328, 167 L. Ed. 2d 85 (2007). "[W]e will not attempt to supplement or reconstruct the record, or to make factual determinations, in order to decide the defendant's claim." *State* v. *Golding*, supra, 213 Conn. 240. As a result, "we will not address an unpreserved constitutional claim [i]f the facts revealed by the record are insufficient, unclear or ambiguous as to whether a constitutional violation has occurred . . . ." (Internal quotation marks omitted.) *State* v. *Canales*, 281 Conn. 572, 581, 916 A.2d 767 (2007).

Here, the record is inadequate to establish that the defendant's confrontation right was violated because it is unclear whether the 2016 retesting of the vaginal swab was performed by someone other than Przech.[9] The following testimony suggests that Przech performed the testing herself. On cross-examination, defense counsel twice asked Przech whether "*you* conducted" additional testing of the vaginal sample in 2016. (Emphasis added.) Przech responded "[y]es" both times.[10] On redirect examination, after Przech testified

[9] During cross-examination, Przech testified that she did not process the sample or perform the lab work in 2007. This is of no moment because the defendant's claim is not based on the 2007 testing.

[10] "[Defense Counsel]: Okay. Now, we discussed your testing in 200[7]; however, you conducted additional testing and analysis . . . in 2016. Correct?

"[Przech]: Yes.

"[Defense Counsel]: In 2016, you conducted DNA testing of the vaginal, oral [and] genital swabs and compared the DNA profiles on those items to the known profile of [the defendant], correct?

"[Przech]: Yes.

* * *

"[Defense Counsel]: Okay. You were given the known sample in August, [2016], or sometime after August 17, and you issued a report in December, [2016]. You did testing on that sample during that time period. Right?

"[Przech]: Yes.

"[Defense Counsel]: And you documented your results, correct?

"[Przech]: Yes."

about "rework[ing] the sample" in 2016, the prosecutor asked: "[I]s that what *you did* in this case?" (Emphasis added.) Przech replied: "Yes, [item number] 1CB [vaginal sample]." Thereafter, Przech testified that, following the unofficial, September, 2016 report, her technical leader told her that the vaginal sample "can be amplified more and [that she could] develop a different profile and get better results." The prosecutor then asked: "[W]ere *you* able to amplify the sample?" (Emphasis added.) Przech responded: "*I was able to redo the sample* using a new kit that we used." (Emphasis added.) Przech further testified that the December, 2016 report was based on this "redo" of the sample, which resulted in a different DNA profile than the one on which the unofficial, September, 2016 report was based. Defense counsel did not conduct a recross-examination of Przech.

But Przech also testified on cross-examination, without referencing a specific test, that "I was the analyst who analyzed the data. I didn't develop the profiles or do the lab work." In light of this inconsistent testimony, it is, at best, unclear whether someone other than Przech retested the vaginal samples in 2016, and any conclusion we could attempt to draw as to who retested the vaginal samples would be purely speculative. As we have explained, "[i]t is incumbent upon the [defendant] to take the necessary steps to sustain [his] burden of providing an adequate record for appellate review. . . . Our role is not to guess at possibilities . . . but to review claims based on a complete factual record developed by a trial court. . . . Without the necessary factual and legal conclusions furnished by the trial court . . . any decision made by us respecting [the defendant's claims] would be entirely speculative." (Internal quotation marks omitted.) *State* v. *Brunetti*, supra, 279 Conn. 63. Because it is the function of the trial court, not this court, to make factual findings; see, e.g., *State* v. *Satchwell*, 244 Conn. 547, 562, 710 A.2d 1348 (1998);

the defendant was required to clarify the record as to whether someone other than Przech conducted the retesting in 2016. Because the facts revealed by the record are inadequate to establish whether the alleged constitutional violation did, in fact, occur, we conclude that the defendant's claim fails under the first prong of *Golding*, and, thus, we decline to review it.

II

We next turn to the defendant's contention that his due process right was violated by the introduction of DNA identification evidence that was unreliable under *Manson* v. *Brathwaite*, supra, 432 U.S. 98, because of the danger that the jury would assume that a random match probability is the likelihood that the defendant is not the source of the DNA in the vaginal sample.[11] The defendant again seeks review of this unpreserved claim under *State* v. *Golding*, supra, 213 Conn. 239–40.[12]

[11] Contrary to the defendant's assertion, *Manson* v. *Brathwaite*, supra, 432 U.S. 98, provides little guidance for assessing DNA evidence. In that case, the United States Supreme Court concluded that "reliability is the linchpin in determining the admissibility" of evidence of an eyewitness identification that results from an unnecessarily suggestive procedure. Id., 114. The court also concluded that the factors to be considered in the analysis of whether the identification evidence is admissible are those set forth in *Neil* v. *Biggers*, 409 U.S. 188, 199–200, 93 S. Ct. 375, 34 L. Ed. 2d 401 (1972). See *Manson* v. *Brathwaite*, supra, 114. These factors include "the opportunity of the witness to view the criminal at the time of the crime, the witness' degree of attention, the accuracy of his prior description of the criminal, the level of certainty demonstrated at the confrontation, and the time between the crime and the confrontation. Against these factors is to be weighed the corrupting effect of the suggestive identification itself." Id.

[12] The defendant also appears to contend that we may reverse the judgment on the ground of plain error. The defendant's claim is not briefed beyond a conclusory assertion in a single footnote. He contends, without any analysis, that "[c]onvicting the defendant solely on misunderstood DNA evidence affects the fairness and integrity of and public confidence in his trial and conviction." In addition to inadequately briefing his claim; see, e.g., *Estate of Rock* v. *University of Connecticut*, 323 Conn. 26, 33, 144 A.3d 420 (2016) ("Claims are inadequately briefed when they are merely mentioned and not briefed beyond a bare assertion. . . . Claims are also inadequately briefed when they . . . consist of conclusory assertions . . . with no mention of relevant authority and minimal or no citations from the record . . . ." (Inter-

See footnote 6 of this opinion. We conclude that the defendant's claim fails under the third prong of *Golding* because he has not established a constitutional violation.

To understand the defendant's claim, we begin with background principles of DNA evidence. DNA evidence consists of two elements: (1) a determination that the defendant's genetic profile matches a genetic profile present in the evidentiary sample, and (2) a statistical calculation of the rarity of that match. See, e.g., *State* v. *Sivri*, 231 Conn. 115, 155, 646 A.2d 169 (1994) (explaining that calculation of rarity of match "generates a ratio which accompanies a match in order to express the statistical likelihood that an unrelated individual chosen at random from a particular population could have the same DNA profile as the suspect" (internal quotation marks omitted)). This is because a match means little without statistical evidence that will allow the fact finder to determine the strength of the match and, thus, the strength of the inferential fact that the defendant is the person whose DNA is present in the actual evidentiary sample. See id., 155–56. Three types of statistical methods, relevant to the defendant's claim, are used to express the rarity of the match: random match probability, combined probability of inclusion, and source probability. Each method describes the rarity of the match in a different way. The random match probability is the probability that the defendant's DNA profile would match the DNA profile of an unrelated member of the general population who is chosen at random. See id., 155; see also *State* v. *Small*, 180 Conn. App. 674, 685, 184 A.3d 816, cert. denied, 328 Conn. 938, 184 A.3d 268 (2018). The combined probability of inclusion is employed when there is a mixed DNA profile, which indicates the presence of genetic material

nal quotation marks omitted.)); the defendant also failed to demonstrate that the jury did not understand the state's DNA evidence.

from two or more contributors. See *Roberts* v. *United States*, 916 A.2d 922, 927 (D.C. 2007). This method "takes all of the observed data and considers all possible profiles that could produce that data. Then, it generates a statistic, which expresses the probability that a random person would have any of those generated profiles." B. Stiffelman, "No Longer the Gold Standard: Probabilistic Genotyping Is Changing the Nature of DNA Evidence in Criminal Trials," 24 Berkeley J. Crim. L. 110, 128 (2019). "Source probability is the probability that someone other than the defendant is the source of the DNA found at the crime scene." (Internal quotation marks omitted.) *State* v. *Small*, supra, 685. Neither the random match probability nor the combined probability of inclusion is a statement of source probability. To conflate either type with source probability is to ascribe a greater degree of certainty that the evidentiary sample contains the defendant's DNA than is warranted based on a proper understanding of the random match probability or the combined probability of inclusion.[13]

Here, the defendant contends that, unless the prosecutor properly explained the DNA evidence to the jury, the jury "would likely believe that a random match probability of 1 in 230,000 is the likelihood that the defendant is not the source of the DNA in the vaginal sample." (Emphasis omitted.) The defendant notes that the prosecutor asked Przech only one question about

[13] Conflating the random match probability with source probability is known as the prosecutor's fallacy. See, e.g., *McDaniel* v. *Brown*, 558 U.S. 120, 128, 130 S. Ct. 665, 175 L. Ed. 2d 582 (2010) ("The prosecutor's fallacy is the assumption that the random match probability is the same as the probability that the defendant was not the source of the DNA sample. . . . In other words, if a juror is told [that] the probability a member of the general population would share the same DNA is 1 in 10,000 (random match probability), and he takes that to mean there is only a 1 in 10,000 chance that someone other than the defendant is the source of the DNA found at the crime scene (source probability), then he has succumbed to the prosecutor's fallacy." (Citation omitted.)).

the statistical probability of the match, and, on cross-examination, Przech only briefly discussed her probability statement. The defendant contends that, because random match probability was never explained to the jury, and given the likelihood that jurors would misunderstand the DNA identification evidence, the evidence was unreliable and introduced in violation of the due process clause under *Manson* v. *Brathwaite*, supra, 432 U.S. 98. In short, the defendant contends that the jurors likely would have misunderstood Przech's testimony regarding the combined probability of inclusion as indicating source probability rather than random match probability.

The state claims that the defendant is not entitled to *Golding* review of this unpreserved claim because it is evidentiary given that (1) the statistical "evidence, on its face, is neither fundamentally unfair nor materially misleading," (2) "the record offers no suggestion that the jurors were potentially confused about the evidence," and (3) "the defendant makes no claim that the prosecutor mischaracterized or misused the . . . evidence in his closing remarks to the jury." Alternatively, the state claims that the defendant's claim fails the third prong of *Golding* because nothing in the record improperly described random match probability.

Assuming the defendant's claim asserts a constitutional violation and not merely an evidentiary issue, we conclude that the defendant has failed to establish a constitutional violation, and, accordingly, his claim fails under the third prong of *Golding*. Contrary to the defendant's assertions, the December, 2016 report and Przech's corresponding testimony were not unreliable because the jury was presented with evidence that there was a match and the statistical rarity of the match. See *State* v. *Sivri*, supra, 231 Conn. 156 ("because a match between two DNA bands means little without data on probabilities, the calculation of statistical probabilities

is an integral part of the process [of DNA matching]" (internal quotation marks omitted)). Przech also explained that she used the combined probability of inclusion to determine the rarity of the match between the defendant's buccal swab and the evidentiary sample, and nothing in the record improperly equates random match probability with source probability.

On direct examination, the prosecutor asked Przech to explain the significance of the frequency numbers contained in her December, 2016 report. Przech testified that she employed the combined probability of inclusion. She properly explained that the combined probability of inclusion is a mathematical calculation representing "the statistical frequency *for anyone that would be included in that profile* . . . ." (Emphasis added.) She emphasized that the statistical frequency was "not just for [the defendant], but for someone else [who] could have a different combination of numbers that could also be included in that profile."

Przech further noted that the DNA that had been extracted from the sperm-rich fraction of the vaginal swabs was a mixture containing DNA of three or more persons. She explained that the laboratory cannot determine when or how recovered DNA is deposited in the place that it is found, and the laboratory does not make DNA derived "identity statements" regarding samples. Rather, forensic science examiners compare "the known profile of whoever it is to the sample" and "come up with a conclusion, and then have a statistic that is driven by the [evidentiary] sample, and not by the known [sample]." Przech agreed with defense counsel that she could say only "that [the defendant] is a potential contributor and that, as of [December 16, 2016], it was 1 in 230,000 in the Hispanic population as potential contributors." Przech did not suggest that the combined probability of inclusion is a statement of source probability.

The parties' closing arguments only indirectly addressed Przech's probability statistics and could not reasonably be viewed as confusing or misleading the jury as to the meaning of the combined probability of inclusion or random match probability. During the state's closing argument, the prosecutor emphasized to the jurors that Przech's testimony regarding the DNA evidence was just one piece of a puzzle and that "[p]utting these puzzle pieces together and deciding whether . . . there's a picture . . . [is] your job, and the judge is going to instruct you on it." Defense counsel reminded the jurors that the laboratory does not make identity statements regarding who is or is not guilty of a crime. Defense counsel also drew the jury's attention to the statistical discrepancies between the September, 2016 and December, 2016 reports.

There is no indication in the record that the jury misunderstood the meaning of the combined probability of inclusion or random match probability. Cf. *State* v. *Pappas*, 256 Conn. 854, 887, 776 A.2d 1091 (2001) (during jury deliberations, jury sent note asking whether DNA from certain evidence was "a match to the [defendant's] known DNA sample" (internal quotation marks omitted)). If the defendant nonetheless believed that the DNA evidence was unreliable, misleading or required a more detailed explanation, he had the opportunity to object to the testimony, cross-examine Przech, present his own expert or other contradictory evidence, and request a jury instruction. See, e.g., id., 889 ("a defendant may offer an opposing expert or, as the defendant here did, use cross-examination to critique the analysis and interpretation of mtDNA evidence"); *State* v. *Haughey*, 124 Conn. App. 58, 75, 3 A.3d 980 ("inconclusive characteristics of the [combined probability of inclusion] method's results were the proper subject for cross-examination"), cert. denied, 299 Conn. 912, 10 A.3d 529 (2010); *State* v. *Lindsey*, Docket No. 02C01-

9804-CR-00110, 1999 WL 1095679, *12 (Tenn. Crim. App. October 28, 1999) ("the defense ably challenged the state's DNA proof through intense, probing cross-examination of the state's expert and presentation of its own expert proof"); cf. *Daubert* v. *Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 596, 113 S. Ct. 2786, 125 L. Ed. 2d 469 (1993) ("[v]igorous 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"). Throughout defense counsel's extensive cross-examination of Przech, defense counsel never sought to elicit any additional information regarding the combined probability of inclusion; nor did he present his own statistical evidence or request a jury instruction.

The defendant also contends that, without guidance, the jury was likely to overvalue the DNA evidence and ignore the other types of evidence pointing toward or away from his guilt. One way to address that concern is an instruction to the jury on the need to consider all of the evidence in a case. See, e.g., *State* v. *Pappas*, supra, 256 Conn. 889. Here, despite the fact that the defendant did not request an instruction addressing the DNA evidence, the trial court did instruct the jurors that, "[i]n deciding what the facts are, you must consider all the evidence." The court also instructed the jurors that expert testimony is presented to assist them but that "[n]o such testimony is binding [on] you, and you may disregard the testimony either in whole or in part. It is for you to consider the testimony with the other circumstances in the case and, using your best judgment, determine whether you will give any weight to it . . . ." Finally, the court reminded the jurors that the defendant denies he is the person involved in the assault and instructed them that they "must be satisfied beyond a reasonable doubt of the identity of the defendant as the one who committed the crime . . . ." In

the absence of evidence to the contrary, we presume that the jury followed the court's instructions. See, e.g., *State* v. *O'Neil*, 261 Conn. 49, 82, 801 A.2d 730 (2002).

Given that Przech properly explained the statistical method she used to determine the rarity of the match, and defense counsel had the opportunity to cross-examine her, present his own statistical evidence, or request a jury instruction on this point, we conclude that the defendant has failed to establish a constitutional violation, and, as such, his claim fails under the third prong of *Golding*.

The defendant also asks us to exercise our supervisory authority to require trial courts to instruct the jury on the meaning of random match probability when DNA evidence is the only evidence identifying the defendant as the perpetrator. In response, the state contends that, "[a]ssuming that this is a claim for relief, as opposed to a suggestion, it is . . . inadequately briefed," and, alternatively, "this request should be denied because . . . DNA was not the only evidence of guilt in this case."

"Although [a]ppellate courts possess an inherent supervisory authority over the administration of justice . . . [that] authority . . . is not a form of free-floating justice, untethered to legal principle. . . . Our supervisory powers are not a last bastion of hope for every untenable appeal. They are an *extraordinary* remedy to be invoked only when circumstances are such that the issue at hand, [although] not rising to the level of a constitutional violation, is nonetheless of utmost seriousness, not only for the integrity of a particular trial but also for the perceived fairness of the judicial system as a whole. . . . Constitutional, statutory and procedural limitations are generally adequate to protect the rights of the defendant and the integrity of the judicial system. Our supervisory powers are invoked only in the

rare circumstance [when] these traditional protections are inadequate to ensure the fair and just administration of the courts." (Emphasis in original; internal quotation marks omitted.) *State* v. *Wade*, 297 Conn. 262, 296, 998 A.2d 1114 (2010).

We decline the defendant's invitation to exercise our supervisory powers in the present case. First, the defendant seeks to require an instruction on random match probability, but, in this case, Przech relied on the combined probability of inclusion as her statistical method to determine the rarity of the match. Although the combined probability of inclusion and random match probability produce similar statistical metrics, given that random match probability is employed for single source DNA profiles and the combined probability of inclusion is employed for mixed DNA profiles, a jury instruction on random match probability would not have fully explained the statistical method Przech employed in this case. Second, there is no indication that the jury misunderstood Przech's description of the statistical method that she used to determine the rarity of the DNA match. Third, as we discuss in part III of this opinion, contrary to the defendant's suggestion, the DNA evidence in this case is not the only evidence identifying the defendant as the perpetrator. Finally, the defendant also fails to explain why this extraordinary remedy is required and how this issue impacts, not only the integrity of this particular trial, but also the perceived fairness of the judicial system as a whole. See, e.g., *State* v. *Elson*, 311 Conn. 726, 768, 91 A.3d 862 (2014) ("a defendant seeking review of an unpreserved claim under our supervisory authority must demonstrate that his claim is one that, as a matter of policy, is relevant to the perceived fairness of the judicial system as a whole, most typically in that it lends itself to the adoption of a procedural rule that will guide the lower courts in the administration of justice in all aspects of the

criminal process" (internal quotation marks omitted)). Accordingly, we decline to invoke our supervisory authority at this time to require trial courts to instruct the jury on the meaning of random match probability.[14]

III

Finally, we consider the defendant's contention that a random match probability of 1 in 230,000, by itself,

[14] Having reached this conclusion, however, we take this opportunity to emphasize that, in appropriate circumstances, and when the defendant requests it, a trial court may instruct the jury on the meaning of the statistical rarity of a match. Our research has not revealed, and the defendant does not contend, that any jurisdiction—state or federal—has adopted a model instruction on the meaning of random match probability. The need for such an instruction, what information such an instruction might contain, and whether it is proper to give such an instruction, however, have been discussed in academic literature and several cases. See, e.g., *State* v. *Bloom*, 516 N.W.2d 159, 170–71 (Minn. 1994) (Page, J., concurring specially); P. Chaudhuri, "A Right to Rational Juries? How Jury Instructions Create the 'Bionic Juror' in Criminal Proceedings Involving DNA Match Evidence," 105 Cal. L. Rev. 1807, 1850–51 (2017).

Several courts have concluded that the failure to give such an instruction was appropriate because the instruction improperly addressed matters of scientific fact, not legal principles. See, e.g., *State* v. *Paxton*, Docket No. 2 CA-CR 2007-0062, 2008 WL 4551502, *4 (Ariz. App. January 14, 2008); *Stanley* v. *State*, 289 Ga. App. 373, 375–76, 657 S.E.2d 305 (2008); *Keen* v. *Commonwealth*, 24 Va. App. 795, 807–808, 485 S.E.2d 659 (1997).

This court, however, has taken a different view of jury instructions involving scientific facts—specifically, in the context of research disproving common misperceptions about the reliability of eyewitness identification. We determined that, in a given case in which the concerns raised by the scientific evidence were applicable, it would be proper for a trial court to give a cautionary jury instruction on eyewitness identification. See *State* v. *Harris*, 330 Conn. 91, 134–35, 191 A.3d 119 (2018) ("it may be appropriate for the trial court to craft jury instructions to assist the jury in its consideration of [the reliability of eyewitness testimony]"), citing *State* v. *Guilbert*, 306 Conn. 218, 257–58, 49 A.3d 705 (2012); see also *State* v. *Guilbert*, supra, 258 (trial court retains discretion to give "jury instructions on the fallibility of eyewitness identification evidence," provided that "any such instructions should reflect the findings and conclusions of the relevant scientific literature pertaining to the particular variable or variables at issue in the case").

Given that there is no consensus on the proper instruction explaining random match probability, or whether such instruction is appropriate, and that we need not decide this issue to resolve the present case, we leave for another day the question of under what circumstances a jury instruction should be provided and the precise phrasing of that instruction.

is insufficient to prove that he is guilty beyond a reasonable doubt. Specifically, the defendant contends that a random match probability of 1 in 230,000 in the Hispanic population means that there are about ninety Hispanic males over the age of fifteen in the United States who could have contributed a DNA profile to the vaginal sample.[15] The state contends that this "claim is meritless because the evidence establishing the defendant's identity was not based on the DNA evidence alone." Rather, the state contends, "the recordings of the defendant's two interviews with the police provided sufficient additional evidence to establish his guilt beyond a reasonable doubt." We agree with the state.

The defendant concedes that, although he moved for a judgment of acquittal, he did not raise this argument before the trial court. This court, however, "review[s] an unpreserved sufficiency of the evidence claim as though it had been preserved." (Internal quotation marks omitted.) *State* v. *Josephs*, 328 Conn. 21, 35 n.11, 176 A.3d 542 (2018).

In evaluating a claim of evidentiary insufficiency, we "review the evidence and *construe it as favorably as possible with a view toward sustaining the conviction*, and then . . . determine whether, in light of the evidence, the trier of fact could reasonably have reached the conclusion it did reach." (Emphasis in original; internal quotation marks omitted.) *State* v. *Jordan*, 314 Conn. 354, 385, 102 A.3d 1 (2014). A trier of fact is permitted to make reasonable conclusions by "draw-[ing] whatever inferences from the evidence or facts established by the evidence it deems to be reasonable and logical. . . . [These inferences, however] cannot be based

[15] The defendant reasons that the 2016 census identified 41.5 million Hispanic people in the United States over the age of fifteen. The defendant assumes that one half of those individuals, 20.75 million, are male. He arrives at the pool of ninety by dividing 20.75 million by 230,000.

on possibilities, surmise or conjecture." (Internal quotation marks omitted.) Id.

In the present case, the evidence establishing the identity of the defendant was not based on the DNA evidence alone. In particular, the video recordings of the defendant's two interviews with the police, which were played for the jury, provided additional evidence from which the jury could have concluded that the defendant was one of the perpetrators. The August, 2016 interview established that the defendant was a resident of New Britain at the time of the assault. The video of both the August and December, 2016 interviews also established that, consistent with the victim's description of the perpetrators, the defendant is Hispanic, heavyset, and speaks English.[16]

Jurors also reasonably could have concluded that several of the defendant's statements to the police during the interviews were inconsistent or partial truths influenced by his participation in the crime and evidence of his consciousness of guilt. For example, after denying ever having had a threesome during the first interview, during the second interview, the defendant admitted that he had engaged in threesomes on two occasions. When the detective asked him during the second interview what happened the day the victim

[16] Evidence that the defendant lived in New Britain and resembled the victim's description of one of the perpetrators renders the defendant's argument regarding the number of Hispanic males in the United States unpersuasive because the argument erroneously assumes that the group of people in the population that could have contributed to the profile in the evidentiary sample, in this case ninety, are all equally suspect. This is known as the defense fallacy, and it "understat[es] the tendency of a reported match to strengthen source probability and narrow the group of potential suspects. . . . [T]he real source probability will reflect the relative strength of circumstantial evidence connecting the defendant and other persons with matching DNA to the scene of the crime." (Emphasis omitted; footnote omitted.) *United States* v. *Chischilly*, 30 F.3d 1144, 1157 (9th Cir. 1994) (overruled in part on other grounds by *United States* v. *Preston*, 751 F.3d 1008 (9th Cir. 2014)), cert. denied, 513 U.S. 1132, 115 S. Ct. 946, 130 L. Ed. 2d 890 (1995).

reported being assaulted, the defendant abandoned his lack of recollection and offered an account of picking up a man and a woman in his car near an AutoZone in New Britain and engaging in a threesome. The defendant later explained that he could not remember when that occurred or whether it was the same incident the detective was referencing. The defendant's mention of an AutoZone was significant, however, because the jury was presented with evidence that an AutoZone was located in the vicinity of where the victim reported being abducted. Finally, when the detective informed him that, in addition to the assault, the victim stated that she had been robbed of several hundred dollars, the defendant replied with words to the effect of: "That's not me. It's the other guy." The defendant concedes that his inconsistent statements to the police "might be construed as consciousness of guilt evidence . . . ."

We have "repeatedly held that a jury may infer guilt based on consciousness of guilt evidence in conjunction with other evidence . . . ." *State* v. *Davis*, 324 Conn. 782, 797 n.8, 155 A.3d 221 (2017); see also *State* v. *Morelli*, 293 Conn. 147, 154, 976 A.2d 678 (2009) (evidence of consciousness of guilt, along with other evidence, provided sufficient evidence to prove that defendant was under influence of intoxicating liquor, which is essential element of offense of operating motor vehicle while under influence of intoxicating liquor); *State* v. *Groomes*, 232 Conn. 455, 473–74, 656 A.2d 646 (1995) (holding that trial court properly instructed jury that it may use defendant's flight as evidence of consciousness of guilt and as independent, circumstantial evidence of defendant's guilt). Here, that other evidence was the DNA evidence.

Construing the evidence as favorably as possible to sustaining the guilty verdict, we conclude that the state's case did not rest on the DNA evidence alone and that the circumstantial evidence, combined with the DNA evidence, was sufficient for the jury to find

beyond a reasonable doubt that the defendant was one of the perpetrators of the sexual assault. See, e.g., *State* v. *Young*, 157 Conn. App. 544, 558–59, 117 A.3d 944 (rejecting defendant's contention that evidence was insufficient to support conviction based only on DNA evidence because state's case did not rest on DNA evidence alone), cert. denied, 317 Conn. 922, 118 A.3d 549 (2015).

The judgment is affirmed.

In this opinion the other justices concurred.

KAHN, J., concurring. I agree with and join in full the majority opinion. I write separately to clarify the intersection of evidence based on DNA analysis and the constitutional right to confrontation.

During oral argument, each party was asked which individuals involved in DNA analysis were required to testify pursuant to the confrontation clause of the sixth amendment to the United States constitution, especially in light of *State* v. *Walker*, 332 Conn. 678, 212 A.3d 1244 (2019). Each party gave a very different response. The state read *Walker* to stand for the proposition that, to satisfy the requirements of the confrontation clause, the state was required to call only the person or persons who conducted the critical, interpretive part of the DNA analysis involving the calling of the alleles, which gives rise to a numerical DNA profile. Furthermore, the state argued that the technicians involved in the preliminary stages including extraction, quantitation, and amplification are not necessary witnesses. The defendant interpreted precedent, including *Walker*, to not only apply to analysts as described by the state, but also to the technician who put the DNA sample into the electrophoresis machine[1] and, potentially, any other person that

[1] I refer to the scientific instrument that analyzes the DNA sample as the electrophoresis machine throughout this concurrence, but I acknowledge that the instrument may have different names depending on its capabilities. For example, a laboratory may instead use a genetic analyzer. See, e.g., M.

could have contaminated the sample at any stage. Although it is certainly not uncommon for opposing parties to interpret precedent differently, the wide gulf between these responses illustrates a continuing uncertainty in this critical area of constitutional rights, despite recent decisions from this court. See, e.g., *State* v. *Lebrick*, 334 Conn. 492, 223 A.3d 333 (2020); *State* v. *Walker*, supra, 678; *State* v. *Sinclair*, 332 Conn. 204, 210 A.3d 509 (2019); *State* v. *Buckland*, 313 Conn. 205, 96 A.3d 1163 (2014), cert. denied, 574 U.S. 1078, 135 S. Ct. 992, 190 L. Ed. 2d 837 (2015); *State* v. *Smith*, 289 Conn. 598, 960 A.2d 993 (2008).

DNA analysis is a powerful tool that has become a staple in both the scientific community and trial courts since DNA fingerprinting was first invented in 1984. See P. Gill et al., "Forensic Application of DNA 'Fingerprints,' " 318 Nature 577, 577 (1985). This methodology allows us to determine—from blood, skin, sweat, semen, hair, or other DNA-containing cells—the likelihood that an individual is reasonably tied to a crime scene, victim, weapon, or other object. A mere four decades ago, the use of DNA sequencing and comparison as an evidentiary tool in the courtroom was not even an option. Since it was first used to convict a Florida defendant of a sexual offense in 1987; see A. Adema, "DNA Fingerprinting Evidence: The Road to Admissibility in California," 26 San Diego L. Rev. 377, 385 and n.52 (1989); *Andrews* v. *State*, 533 So. 2d 841, 842, 850–51 (Fla. App. 1988), review denied, 542 So. 2d 1332 (Fla. 1989); DNA analysis has rapidly evolved to include improved methodologies. It has not only been used in contemporary trials to inculpate defendants, but also to exonerate wrongly convicted individuals who spent years, and even decades, incarcerated. See generally Innocence Project, DNA's Revolutionary Role in Freeing the Inno-

Chin et al., Forensic DNA Evidence: Science and the Law (2019) § 3:4, pp. 3-28 through 3-31. Regardless of its name, the instrument is one that produces raw data regarding the genotype of the DNA sample.

cent (April 18, 2018), available at https://www.innocenceproject.org/dna-revolutionary-role-freedom (last visited September 22, 2020).

Although the last forty years have seen rapid evolution of DNA analysis in the field of science, the jurisprudence regarding constitutionally permissible use of DNA evidence has evolved at a more staid pace. Scant binding precedent from the United States Supreme Court, combined with a lack of cohesion and clarity in the available precedent, has resulted in uncertainty in both state and federal jurisdictions. This lack of guidance has not gone unnoticed by this court; see *State* v. *Walker*, supra, 332 Conn. 706 ("[d]ue to the fractured nature of [*Williams* v. *Illinois*, 567 U.S. 50, 132 S. Ct. 2221, 183 L. Ed. 2d 89 (2012)], courts have struggled to determine the effect of *Williams*, if any, on the legal principles governing confrontation cause claims"); by federal courts of appeals; see *Washington* v. *Griffin*, 876 F.3d 395, 409 (2d Cir. 2017) ("[w]e have already noted the difficulty in identifying a single holding of principle from the several opinions of the fractured *Williams* [c]ourt, using the analytic approach that the Supreme Court recommends"), cert. denied, U.S. , 138 S. Ct. 2578, 201 L. Ed. 2d 299 (2018); and even by ideologically distinct members of the United States Supreme Court. See *Stuart* v. *Alabama*, U.S. , 139 S. Ct. 36, 37, 202 L. Ed. 2d 414 (2018) (Gorsuch, J., dissenting from the denial of certiorari) ("Respectfully, I believe we owe lower courts struggling to abide our holdings more clarity than we have afforded them in this area. *Williams* imposes on courts with crowded dockets the job of trying to distill holdings on two separate and important issues from four competing opinions. The errors here may be manifest, but they are understandable and they affect courts across the country in cases that regularly recur.").[2]

[2] Justice Sotomayor joined Justice Gorsuch in the dissent from the denial of certiorari.

In an effort to provide comprehensive guidance, this concurrence (1) illustrates the DNA analysis process as described to the United States Supreme Court, (2) details the requirements of the confrontation clause as established by *Crawford*[3] and how it applies to forensic reports for non-DNA substances, and (3) explains which stages of DNA analysis I believe are subject to the requirements of the confrontation clause in light of this court's precedent.

I

DNA ANALYSIS

When *Williams* was before the United States Supreme Court in December, 2011, the New York County District Attorney's Office and the New York City Office of the Chief Medical Examiner (OCME) submitted an amici curiae brief that, in part, described the DNA testing process at the OCME. *Williams* v. *Illinois* (No. 10-8505), United States Supreme Court Briefs, October Term, 2011, Amicus Brief of the New York County District Attorney's Office et al., pp. 7–8. I find their description of DNA analysis as it is performed at the OCME to be informative and reiterate it here in order to provide clear context for the remainder of this concurrence.[4]

"At the OCME, the testing of each item involves five distinct stages, each of which is performed by one or more different persons. The first stage is *evidence examination*, in which a technician (technician 1) examines the sample for biological fluids and takes cuttings for DNA extraction. The second stage is *extraction*, in which a technician (technician 2) adds chemical

[3] *Crawford* v. *Washington*, 541 U.S. 36, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004).

[4] Methodologies vary among types of DNA samples (i.e., single source or mixtures) and analytical labs. This description is intended for illustrative purposes and to serve as a point of comparison based on the character of the activity, regardless of the exact process or technical descriptors employed.

reagents to the sample that break open the cells and free up the DNA so it is accessible for testing. The third stage is *quantitation*, in which a technician (technician 3) measures the amount of DNA that is present in the sample. If there is a sufficient amount of DNA, the testing proceeds to stage four, *amplification*, in which another technician (technician 4) uses a highly automated process to target, tag, and copy [sixteen] specific locations ('loci'), thereby raising them to a detectable level. The fifth stage is *electrophoresis*, or DNA typing, in which two more technicians (technicians 5 and 6) run the amplified DNA through machines that illuminate the tagged areas and separate, label, and display each locus. The result—an electropherogram—is a genetic DNA profile that is ready for comparison. Notably, each technician in stages one through five prepares worksheets contemporaneously with each task that is performed, which enable subsequent reviewers to verify that each step was conducted in accordance with established procedures." (Emphasis added.) Id., p. 7; see also M. Chin et al., Forensic DNA Evidence: Science and the Law (2019) § 3:4, pp. 3-20 through 3-35.

The amici also highlighted that "each case involves the separate testing of a minimum of two different samples (a crime scene sample and a suspect exemplar), and each process requires the participation of at least six different technicians. That means that each case will involve at least [twelve] technicians. Only at the end of these processes does an analyst, who routinely will testify in court about the case, compare the two electropherograms and prepare a report setting forth her conclusions." *Williams* v. *Illinois* (No. 10-8505), United States Supreme Court Briefs, supra, pp. 7–8.[5]

[5] The expert witness in *Walker* testified that a similar DNA typing process was used at the laboratory run by the Division of Scientific Services of the Department of Emergency Services and Public Protection. "She testified that the process involves four steps: (1) extracting DNA from the sample and purifying it of contaminants; (2) quantitating the DNA, i.e., determining the amount of DNA that has been extracted; (3) amplifying the DNA using

The first four stages described above are conducted by technicians who each complete a discrete step of the DNA sample preparation, following highly proscribed methods. A technician then loads the sample into the electrophoresis machine that, in step five, produces raw data that describe the genotype of the DNA sample. It is at this point that an analyst becomes involved. The analyst uses her skilled judgment—either through manual computation or computer software—to conduct an interpretive analysis of the raw data to call the alleles and generate a numerical DNA profile that is used for comparison. See, e.g., *People* v. *John*, 27 N.Y.3d 294, 300, 52 N.E.3d 1114, 33 N.Y.S.3d 88 (2016). At a minimum, there are two DNA profiles: one generated from an unknown sample—commonly collected from a crime scene, weapon, or victim that potentially came from a then unknown perpetrator—and another from a known sample, commonly DNA collected from a suspect, often via a buccal swab, pursuant to a warrant. The analyst then compares these DNA profiles to determine if they match, which is "measured by a statistic expressing the rarity of that shared profile, known as the random match probability statistic." M. Chin et al., supra, p. 5-1. Ultimately, the analyst states the probability that a person chosen at random from a population of unrelated people will possess a DNA profile that matches the DNA profile collected as evidence. Id.

II

CONFRONTATION CLAUSE

In 2004, the United States Supreme Court rejected the then accepted view "that the [c]onfrontation [c]lause applies of its own force only to in-court testimony, and

a thermal cycler machine, i.e., creating many copies of different regions of the DNA; and (4) interpreting the data generated from these steps and constructing the numerical DNA profile, which consists of a series of numbers to designate the 'alleles.' " *State* v. *Walker*, supra, 332 Conn. 684–85.

that its application to out-of-court statements introduced at trial depends upon the law of [e]vidence . . . .'' (Internal quotation marks omitted.) *Crawford* v. *Washington*, 541 U.S. 36, 50–51, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004). Instead, the United States Supreme Court determined that ''[the confrontation clause] applies to 'witnesses' against the accused—in other words, those who 'bear testimony.' . . . 'Testimony,' in turn, is typically '[a] solemn declaration or affirmation made for the purpose of establishing or proving some fact.' . . . An accuser who makes a formal statement to government officers bears testimony in a sense that a person who makes a casual remark to an acquaintance does not.'' (Citations omitted.) Id., 51; see also *State* v. *Walker*, supra, 332 Conn. 690.

This was a sea change in confrontation clause jurisprudence. Out-of-court statements that were typically admitted under hearsay exceptions; see, e.g., *Ohio* v. *Roberts*, 448 U.S. 56, 66, 100 S. Ct. 2531, 65 L. Ed. 2d 597 (1980); were now constitutionally inadmissible if they were testimonial. Put another way, even if a statement falls under a valid hearsay exception under the rules of evidence, it will nonetheless be inadmissible under the confrontation clause if that statement is testimonial in nature and the defendant's right to cross-examination remains unsatisfied;[6] hearsay safeguards are not adequate to protect confrontation clause rights.

When assessing whether a statement is admissible under the confrontation clause, the first, most basic

[6] A defendant's right to cross-examine a witness regarding testimonial statements may be satisfied in one of two ways. First, the defendant's right may be satisfied if the witness is available to testify and can be cross-examined at trial. Second, the defendant's right may be satisfied if the witness is unavailable to testify at trial but the defendant had a prior opportunity to cross-examine her or him about the testimonial statements. See *Crawford* v. *Washington*, supra, 541 U.S. 68. For clarity, this concurrence assumes that a witness is unavailable and that the defendant has not been afforded a prior opportunity to cross-examine her or him.

question is whether the witness is available. If the witness is available, then the defendant has an opportunity to cross-examine, thereby satisfying the requirements of the confrontation clause. In addition, if the witness is unavailable but the defendant had a prior opportunity to cross-examine that witness, then the confrontation clause is also satisfied. In those instances, the admissibility of the witness' individual statements, whether testimonial or not, is governed by the rules of evidence. However, if the witness is unavailable and there was no prior opportunity to cross-examine that witness, then the court must determine whether the statement is testimonial. If the statement is not testimonial, then admission of the statement does not violate the confrontation clause and its admissibility is, once again, determined by the rules of evidence. If the statement is testimonial, then its admission violates the confrontation clause and the statement is inadmissible, even if it would otherwise be admissible under the rules of evidence. The entire analysis to determine if the protections offered by the confrontation clause apply turns on what it means for a statement to be *testimonial.*

The United States Supreme Court has described various formulations of this core class of "testimonial" statements, including "[1] ex parte in-court testimony or its functional equivalent—that is, material such as affidavits, custodial examinations, prior testimony that the defendant was unable to cross-examine, or similar pretrial statements that declarants would reasonably expect to be used prosecutorially . . . [2] extrajudicial statements . . . contained in formalized testimonial materials, such as affidavits, depositions, prior testimony, or confessions . . . [3] statements that were made under circumstances which would lead an objective witness reasonably to believe that the statement would be available for use at a later trial . . . ." (Citation omitted; internal quotation marks omitted.) *Crawford* v. *Washington*, supra, 541 U.S. 51–52. The United

States Supreme Court has held, for example, that interrogations by law enforcement officers solely directed at establishing the facts of a past crime, in order to identify or provide evidence to convict the perpetrator, fall squarely within the class of testimonial hearsay. See *Davis* v. *Washington*, 547 U.S. 813, 826, 126 S. Ct. 2266, 165 L. Ed. 2d 224 (2006); *Crawford* v. *Washington*, supra, 53. *Crawford*, however, "[left] for another day any effort to spell out a comprehensive definition of 'testimonial.' " *Crawford* v. *Washington*, supra, 68.

Subsequent United States Supreme Court decisions began to clarify what qualified as "testimonial" statements in a piecemeal fashion, each focusing on whether the specific statement at issue was testimonial rather than attempting to provide a comprehensive definition of "testimonial" that could be applied in any type of case. Statements made in the course of a police interrogation, for example, "are nontestimonial when made . . . under circumstances objectively indicating that the primary purpose of the interrogation is to enable police assistance to meet an ongoing emergency. They are testimonial when the circumstances objectively indicate that there is no such ongoing emergency, and that the primary purpose of the interrogation is to establish or prove past events potentially relevant to later criminal prosecution." *Davis* v. *Washington*, supra, 547 U.S. 822; see also id., 822 n.1 (noting that this conclusion does not imply "that statements made in the absence of any interrogation are necessarily nontestimonial").

The results of forensic analysis are testimonial when, regardless of the official title on the document, "[t]hey are incontrovertibly a solemn declaration or affirmation made for the purpose of establishing or proving some fact." (Internal quotation marks omitted.) *Melendez-Diaz* v. *Massachusetts*, 557 U.S. 305, 310, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009). Under these circumstances, a forensic report provides "the precise testimony the analysts would be expected to provide if called at trial"

and is "functionally identical to live, in-court testimony, doing 'precisely what a witness does on direct examination.' " Id., 310–11. The absence of an oath, however, "[i]s not dispositive in determining if a statement is testimonial." (Internal quotation marks omitted.) *Bullcoming* v. *New Mexico*, 564 U.S. 647, 664, 131 S. Ct. 2705, 180 L. Ed. 2d 610 (2011). The formality of a forensic report "suggests its evidentiary purpose," but it is "not the sole touchstone of our primary purpose inquiry . . . ." (Internal quotation marks omitted.) Id., 671 (Sotomayor, J., concurring in part).

From the triumvirate of *Davis*, *Melendez-Diaz*, and *Bullcoming*, we can glean one clear rule: a statement is testimonial when it has the "primary purpose of establish[ing] or prov[ing] past events potentially relevant to a later criminal prosecution." (Internal quotation marks omitted.) Id., 659 n.6 (opinion announcing judgment); *State* v. *Sinclair*, supra, 332 Conn. 220. This doctrine may be applied in a relatively straightforward manner when a single individual makes a statement or a single expert conducts an analysis and issues a forensic report. In such cases, the person who made the statement or authored the report that had the primary purpose of establishing a fact to be used in a criminal prosecution would need to be present at the trial and subject to cross-examination, or, if unavailable for trial, the defendant must have had a previous opportunity to cross-examine the witness regarding the statement. See *Crawford* v. *Washington*, supra, 541 U.S. 68 ("Where testimonial evidence is at issue . . . the [s]ixth [a]mendment demands what the common law required: unavailability and a prior opportunity for cross-examination"). This doctrine, on the other hand, becomes less clear when it is applied to more complicated scientific processes, such as DNA analysis, where multiple technicians complete the procedural steps that produce an amplified DNA sample, an electrophoresis machine gen-

erates raw data based on the sample, and analysts subjectively apply their scientific expertise to interpret the raw data and generate a DNA profile.

III

IMPLICATIONS FOR DNA EVIDENCE

The United States Supreme Court addressed forensic analyses, i.e., analysis of seized substances and analysis of blood alcohol content, in *Melendez-Diaz* and *Bullcoming*, and DNA analysis came into the limelight soon after. See, e.g., *Williams* v. *Illinois*, supra, 567 U.S. 50. The complexity of DNA analysis and the uncertainty of how the primary purpose test applied to its myriad discrete analytical steps resulted in severely fractured opinions in *Williams*, a plurality opinion with concurrences and a dissent, and "no clear consensus as to what constitute[s] a testimonial statement in this context." (Internal quotation marks omitted.) *Washington* v. *Griffin*, supra, 876 F.3d 406; see also *Young* v. *United States*, 63 A.3d 1033, 1042–43 (D.C. 2013). Ordinarily, "[w]hen a fragmented [c]ourt decides a case and no single rationale explaining the result enjoys the assent of five [j]ustices, the holding of the [c]ourt may be viewed as the position taken by those members who concurred in the judgments on the narrowest grounds." (Internal quotation marks omitted.) *United States* v. *James*, 712 F.3d 79, 95 (2d Cir. 2013), cert. denied, 572 U.S. 1134, 134 S. Ct. 2660, 189 L. Ed. 2d 208 (2014). "As we recently observed, the court in *Williams* made it impossible to identify the narrowest ground [on which the justices agreed] because the analyses of the various opinions are irreconcilable. . . . Consequently . . . we must rely on Supreme Court precedent before *Williams* to the effect that a statement triggers the protections of the [c]onfrontation [c]lause when it is made with the primary purpose of creating a record for use at a later criminal trial." (Citation omitted; internal quo-

tation marks omitted.) *State* v. *Walker*, supra, 332 Conn. 706; see *State* v. *Sinclair*, supra, 332 Conn. 225; see also *United States* v. *James*, supra, 95–96.

Despite a lack of clear guidance from *Williams* as to what aspects of DNA analysis trigger the protections of the confrontation clause, one common theme has risen to the surface: "neither *Melendez-Diaz* nor *Bullcoming* require[s] every witness in the chain of custody to testify." *State* v. *Buckland*, supra, 313 Conn. 214; see also *Washington* v. *Griffin*, supra, 876 F.3d 407 ("the Supreme Court has never held that the [c]onfrontation [c]lause requires an opportunity to [cross-examine] each lab analyst involved in the process of generating a DNA profile and comparing it with another"). *Melendez-Diaz* made this explicitly clear, stating: "[W]e do not hold, and 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. While . . . [i]t is the obligation of the prosecution to establish the chain of custody . . . this does not mean that everyone who laid hands on the evidence must be called. . . . [G]aps in the chain [of custody] normally go to the weight of the evidence rather than its admissibility." (Citations omitted; internal quotation marks omitted.) *Melendez-Diaz* v. *Massachusetts*, supra, 557 U.S. 311 n.1. This court has recently reinforced that view, observing that "[not] all analysts who participate in the process of generating a DNA profile necessarily must testify," and concluding that "where the generation of a DNA profile is testimonial, at least one analyst with the requisite personal knowledge must testify." (Internal quotation marks omitted.) *State* v. *Walker*, supra, 332 Conn. 719.

Although trial courts have general guidance that not every witness must testify, there remains a woeful paucity of specificity as to which technicians or analysts

are required to testify under the confrontation clause. In order to provide some clarity as to when and how the confrontation clause applies in such cases, I review the following three types of "statements" that come from the process of DNA analysis: (1) technicians who are involved in the preliminary stages to prepare a sample for analysis, (2) electrophoresis machines that generate raw data, and (3) analysts who apply their expertise to draw conclusions based on the raw data and inculpate— or exculpate—suspects. Of these three categories, it is only the third category of analysts that triggers the protections afforded by the confrontation clause of the sixth amendment.

A

Technicians

Technicians—whether referred to as technicians or analysts in a specific laboratory—are the individuals who start with a known or unknown DNA sample that was collected outside of the laboratory and who thereafter prepare that sample to be placed into an electrophoresis machine. Sample preparation is often conducted by several individuals, each of whom follows detailed standard operating procedures to conduct a discrete step of the process. In many instances, laboratory protocol requires that technicians document their steps in writing for quality control and quality assurance purposes. See, e.g., A.B.A., Standards for Criminal Justice: DNA Evidence (3d Ed. 2007) standard 16-3.2, p. 70. In conducting his or her individual step in the larger sample preparation process, each individual technician is making a narrow "statement," e.g., "I received the sample following the quantification stage conducted by technician X, conducted amplification pursuant to the standard operating procedure of this laboratory, and then provided the amplified sample to technician Y in order for her to load it into the electrophoresis machine." Even when considered together, the cumulative "state-

ment" of the technicians involved in the preparatory stages is, at most, that the DNA sample loaded into the electrophoresis machine was extracted from the original sample delivered to the laboratory for analysis.

The United States Supreme Court, however, has not concluded whether the confrontation clause applies to "statements" made by technicians. In the absence of clear guidance, I am persuaded by the plurality in *Williams*, which reasoned that, "[w]hen lab technicians are asked to work on the production of a DNA profile, they often have no idea what the consequences of their work will be. . . . It is also significant that in many labs, numerous technicians work on each DNA profile. . . . When the work of a lab is divided up in such a way, it is likely that the sole purpose of each technician is simply to perform his or her task in accordance with accepted procedures." (Citations omitted.) *Williams* v. *Illinois*, supra, 567 U.S. 85 (plurality opinion); see also *Melendez-Diaz* v. *Massachusetts*, supra, 557 U.S. 357 (Kennedy, J., dissenting) ("[l]aboratory analysts who conduct routine scientific tests are not the kind of conventional witnesses to whom the [c]onfrontation [c]lause refers"). Even when a technician may have "mixed motives"—to simply perform his or her task and to be a link in the chain that will eventually lead to evidence that may be used at trial—a court must "examin[e] the statements and actions of all participants" to determine the primary purpose of a statement. *Michigan* v. *Bryant*, 562 U.S. 344, 368, 370, 131 S. Ct. 1143, 179 L. Ed. 2d 93 (2011). "*Melendez-Diaz* and *Bullcoming* together suggest that a laboratory analysis is testimonial *only* when the circumstances under which the analysis was prepared, viewed objectively, establish that the primary purpose of a reasonable analyst in the declarant's position would have been to create a record for use at a later criminal trial" (Emphasis in original; internal quo-

tation marks omitted.) *Washington* v. *Griffin*, supra, 876 F.3d 405.

In my view, the "statements" made by technicians fall short of providing testimony against the petitioner because, in and of themselves, they do not have the primary purpose of "establish[ing] or prov[ing] past events potentially relevant to later criminal prosecution" and, therefore, are not subject to the requirements of the confrontation clause. (Internal quotation marks omitted.) *Bullcoming* v. *New Mexico*, supra, 564 U.S. 659 n.6 (opinion announcing judgment).[7] This court has previously indicated its agreement with this reasoning, stating that "the analysts involved in the preliminary testing stages, specifically, the extraction, quantitation or amplification stages, are not necessary witnesses." (Internal quotation marks omitted.) *State* v. *Walker*, supra, 332 Conn. 719; see also *People* v. *John*, supra, 27 N.Y.3d 313 ("[m]ore succinctly, nothing in this record supports the conclusion that the analysts involved in the preliminary testing stages, specifically, the extraction, quantitation or amplification stages, are necessary witnesses").

As statements made by technicians regarding the preparation of samples for DNA analysis constitute nontestimonial hearsay and, therefore, are not subject to the requirements of the confrontation clause, courts should turn to evidentiary rules to determine if those statements are admissible to establish that the DNA loaded into the electrophoresis machine was extracted and analyzed from the known or unknown sample delivered to the laboratory. Requiring the prosecution to establish the chain of custody should, in a typical case,

[7] This scenario is distinguishable from that presented in *Melendez-Diaz* v. *Massachusetts*, supra, 557 U.S. 313. In that case, the statement made by the unavailable analyst that a substance found on the defendant was cocaine, an illegal substance, was itself inculpatory and was an essential fact to be proven at trial. Id.

be sufficient to meet its evidentiary burden for this portion of the DNA analysis. See *State* v. *Rosado*, 107 Conn. App. 517, 532, 945 A.2d 1028, cert. denied, 287 Conn. 919, 951 A.2d 571 (2008). In determining whether the prosecution meets its burden, "[t]he court must consider the nature of the article, the circumstances surrounding its preservation and custody and the likelihood of intermeddlers tampering with it . . . ." (Internal quotation marks omitted.) *State* v. *Coccomo*, 302 Conn. 664, 685, 31 A.3d 1012 (2011); see also *State* v. *Petitt*, 178 Conn. App. 443, 452, 175 A.3d 1274 (2017) ("[a]s a general rule, it may be said that the prosecution is not required or compelled to prove each and every circumstance in the chain of custody beyond a reasonable doubt; the reasonable doubt must be to the whole evidence and not to a particular fact in the case" (internal quotation marks omitted)), cert. denied, 327 Conn. 1002, 176 A.3d 1195 (2018). In addition, the complexity of DNA itself acts as an inherent check on chain of custody because when an inadvertent error in sample preparation occurs, "any hypothetical missteps of the [technicians] in the multiple stages preliminary to the DNA typing at the electrophoresis stage would result in either no DNA profile or an incomplete DNA profile, or one readily inconsistent with [the known sample]." *People* v. *John*, supra, 27 N.Y.3d 313; see also *Williams* v. *Illinois*, supra, 567 U.S. 86 (plurality opinion) ("it is inconceivable that shoddy lab work would somehow produce a DNA profile that just so happened to have the precise genetic makeup of [the] petitioner").

I do not dismiss concerns that the defendant's goals of cross-examining each technician are "to weed out not only the fraudulent analyst, but the incompetent one as well"; *Melendez-Diaz* v. *Massachusetts*, supra, 557 U.S. 319; and to determine "whether crime labs have properly stored, extracted, and labeled DNA samples, particularly where a single lab contains and tests sam-

ples from the victim, the crime scene, and the accused . . . .'' (Citation omitted.) *Washington* v. *Griffin*, supra, 876 F.3d 411 (Katzmann, C. J., concurring). These concerns, however, are not unique to DNA analysis, but are common concerns in the authentication of any piece of physical evidence and are properly addressed through chain of custody analysis. See, e.g., *State* v. *Coccomo*, supra, 302 Conn. 694 (establishing chain of custody for defendant's blood drawn for blood alcohol content analysis). The mere fact that the physical evidence in these cases is DNA is not sufficient to subject nontestimonial statements to the strictures of the confrontation clause. See *Bullcoming* v. *New Mexico*, supra, 564 U.S. 669 (Sotomayor, J., concurring in part) (''[w]hen the primary purpose of a statement is not to create a record for trial . . . the admissibility of [the] statement is the concern of state and federal rules of evidence, not the [c]onfrontation [c]lause'' (citation omitted; internal quotation marks omitted)). Defendants seeking to elicit testimony from technicians are not left without recourse, however; they retain the power to subpoena technicians to testify about specific aspects of the chain of custody that the defendant believes cast doubt on its reliability and, therefore, supports his or her argument that the DNA that was prepared and loaded in to the electrophoresis machine did not originate from the sample provided to the laboratory. Cf. *Melendez-Diaz* v. *Massachusetts*, supra, 313–14 (''The text of the [sixth amendment] contemplates two classes of witnesses—those against the defendant and those in his favor. The prosecution *must* produce the former; the defendant *may* call the latter.'' (Emphasis in original; footnote omitted.)).

B

Machine Generated Raw Data

Having concluded that statements made by technicians are nontestimonial and, therefore, not subject to

the requirements of the confrontation clause, I now turn to the next stage in the DNA analysis: raw data produced by an electrophoresis machine. The United States Supreme Court has not issued a decision directly related to machine generated raw data in this particular context, but its silence provides insight as to how it could resolve this issue. In 2007, the United States Court of Appeals for the Fourth Circuit held that "the raw data generated by the [chromatograph] machines do not constitute 'statements,' and the machines are not 'declarants.' As such, no out-of-court statement implicating the [c]onfrontation [c]lause was admitted into evidence through the [expert testimony]. Any concerns about the reliability of such machine-generated information is addressed through the process of authentication not by hearsay or [c]onfrontation [c]lause analysis." *United States* v. *Washington*, 498 F.3d 225, 231 (4th Cir. 2007), cert. denied, 557 U.S. 934, 129 S. Ct. 2856, 174 L. Ed. 2d 600 (2009). "[T]he petition for certiorari [in *Washington*] was still pending when the [United States Supreme] Court issued *Melendez-Diaz*. Though the [c]ourt granted petitions for certiorari in other cases and remanded them for reconsideration in light of *Melendez-Diaz*, the [United States] Supreme Court denied the petition in *Washington*. In the wake of these various decisions, the [United States Court of Appeals for the] Fourth Circuit has not overruled *Washington*. Several courts have held that *Washington*'s approach is still sound after *Melendez-Diaz*, *Bullcoming*, and *Williams*." (Footnotes omitted.) B. Sites, "Rise of the Machines: Machine-Generated Data and the Confrontation Clause," 16 Colum. Sci. & Tech. L. Rev. 36, 55–56 (2014).

Furthermore, the United States Supreme Court also indicated in *Bullcoming* that its holding did not apply to machine generated raw data. *Bullcoming* v. *New Mexico*, supra, 564 U.S. 660–61; see also id., 673–74

(Sotomayor, J., concurring in part) ("[T]his is not a case in which the [s]tate introduced only [machine generated] results, such as a printout from a gas chromatograph. . . . Thus, we do not decide whether . . . a [s]tate could introduce (assuming an adequate chain of custody foundation) raw data generated by a machine in conjunction with the testimony of an expert witness." (Citation omitted.)) Noting that "the United States Supreme Court has not addressed the issue of whether the introduction of raw data generated by a machine falls within the confines of *Crawford* or *Melendez-Diaz* [and that] [b]oth the majority and the concurrence in *Bullcoming* emphasized . . . that the holding of that case was limited to human statements and actions and did not necessarily apply to raw, machine produced data," this court has held that "machine generated data [are] not subject to the [restriction] imposed by *Crawford*, *Melendez-Diaz*, and *Bullcoming*." *State* v. *Buckland*, supra, 313 Conn. 216, 221.

Other reports and documentation could be offered at trial related to the calibration and maintenance of an electrophoresis machine that are also not subject to the requirements of the confrontation clause. "Maintenance and calibration records fall in the portion of the spectrum in which humans play an active role in the day-to-day operation of machines, but where courts should still have no difficulty concluding that they generally are not subject to the [c]onfrontation [c]lause. . . . Though these records are made as formal assertions that would normally be used for their truth at trial, courts should conclude that they generally will not trigger a [c]onfrontation [c]lause right because the statements in them are not testimonial. Many courts that have considered the issue have come to this conclusion. Maintenance and calibration records, when made as part of a routine process, are created 'to ensure the reliability of such machines—not to secure evidence

for use in any *particular* criminal proceeding. The fact that the scientific test results and the observations of the technicians might be relevant to future prosecutions of *unknown* defendants [is], at most, an ancillary consideration . . . .' " (Emphasis in original; footnote omitted.) B. Sites, supra, 16 Colum. Sci. & Tech. L. Rev. 76–77, quoting *People* v. *Pealer*, 20 N.Y.3d 447, 455, 985 N.E.2d 903, 962 N.Y.S.2d 592, cert. denied, 571 U.S. 846, 134 S. Ct. 105, 187 L. Ed. 2d 77 (2013); see also *Melendez-Diaz* v. *Massachusetts*, supra, 557 U.S. 311 n.1 ("[a]dditionally, documents prepared in the regular course of equipment maintenance may well qualify as nontestimonial records"); *State* v. *Swinton*, 268 Conn. 781, 833–36, 847 A.2d 921 (2004) (error in admission of bite mark overlays created through Adobe Photoshop because state did not present foundation testimony of adequacy of programs did not violate defendant's confrontation rights but, rather, was evidentiary in nature); *People* v. *Pealer*, supra, 456 ("[w]e endorse this [widely held view] and hold that documents pertaining to the routine inspection, maintenance and calibration of breathalyzer machines are nontestimonial under *Crawford* and its progeny").

C

Analysts

Having concluded that both technicians' "statements" and machine generated raw data are not testimonial and, therefore, that their admissibility is governed by the rules of evidence (e.g., chain of custody or authentication) and not the confrontation clause, I now turn to statements made by the third category of witnesses, the analysts. To be clear, I describe analysts as the individuals who take raw data produced by an electrophoresis machine and, applying their scientific training and expertise, make subjective conclusions on the basis of this raw data, which are often referred to

as generating numerical identifiers and/or the calling of the alleles. See M. Chin et al., supra, § 3:4, pp. 3-31 through 3-35. Once this step has occurred, the resulting conclusions are referred to as the DNA profile. The statements made by analysts about how the DNA profile was developed from the raw data and the conclusions that can be drawn from the DNA profile—which may also be included in a written report—are clearly testimonial as they have the primary purpose of creating a record for use at trial that conveys the likelihood that the source of DNA found at the crime scene came from the defendant. *State* v. *Walker*, supra, 332 Conn. 710. This is the step of DNA analysis that is subject to the strict requirements of the confrontation clause, and these are the individuals who the prosecution must call as witnesses. See *People* v. *John*, supra, 27 N.Y.3d 313 ("we conclude that it is the generated numerical identifiers and the calling of the alleles at the final stage of the DNA typing that effectively accuses [the] defendant of his role in the crime charged").

There could be up to three analysts in even a straightforward case involving one known and one unknown DNA sample: (1) the analyst who develops the DNA profile for the known sample, (2) the analyst who develops the DNA profile for the unknown sample,[8] and (3)

[8] The *Williams* plurality, which, for the reasons stated in the body of this opinion is not binding precedent, concluded that DNA profiles and reports regarding unknown samples collected from crime scenes or victims are not testimonial when they are produced before any suspect was identified. In that case, "[t]he report [on a vaginal swab from a rape victim of an unknown assailant] was sought not for the purpose of obtaining evidence to be used against [the] petitioner, who was not even under suspicion at the time, but for the purpose of finding a rapist who was on the loose. And the profile that [was produced from the semen on the vaginal swab] was not inherently inculpatory." *Williams* v. *Illinois*, supra, 567 U.S. 58. (plurality opinion). This distinction is puzzling. While one purpose of conducting DNA analysis may be to identify a rapist who is at large, a purpose of at least equal importance is to generate a DNA profile that will be used at a future criminal trial once the rapist is apprehended. The DNA profile from the vaginal swab, or other unknown DNA collected in connection with a crime, will eventually be the evidence that directly links the defendant to the crime, and, yet, the

the analyst who compares the two DNA profiles to determine if they match.[9] For cases involving more DNA samples, the number of analysts could be even greater. State prosecutors have argued that requiring multiple

rationale in *Williams* would exclude DNA profiles of unknown samples from the requirements of the confrontation clause in all instances in which there is no identified suspect. For this reason, I am persuaded that the confrontation clause requirements apply equally to analysts who create DNA profiles for both known and unknown samples. See id., 135 (Kagan, J., dissenting) ("We have previously asked whether a statement was made for the primary purpose of establishing past events potentially relevant to later criminal prosecution—in other words, for the purpose of providing evidence. . . . None of our cases has ever suggested that, in addition, the statement must be meant to accuse a previously identified individual . . . ." (Citations omitted; internal quotation marks omitted.)).

[9] The *Williams* plurality concluded that expert testimony regarding statements in a DNA report produced by an outside laboratory, and relied on by an expert witness in forming his testimony, but when the report itself was not introduced into evidence, "does not violate the [c]onfrontation [c]lause because that provision has no application to out-of-court statements that are not offered to prove the truth of the matter asserted." *Williams* v. *Illinois*, supra, 567 U.S. 57–58 (plurality opinion). Claiming that the expert witness did not vouch for the accuracy of the report from the outside laboratory but, instead, testified that it matched the known profile so that the fact finder could assess the accuracy of the expert's statement, the plurality based its conclusion on the long accepted exception to hearsay evidence that "an expert witness may voice an opinion based on facts concerning the events at issue in a particular case even if the expert lacks firsthand knowledge of those facts." Id., 67. Hearsay exceptions, however, do not satisfy the confrontation clause. "[W]here the testifying expert explicitly refers to, relies on, or vouches for the accuracy of the other expert's findings, the testifying expert has introduced out-of-court statements that, if offered for their truth and are testimonial in nature, are subject to the confrontation clause." *State* v. *Walker*, supra, 332 Conn. 694; see also *State* v. *Sinclair*, supra, 332 Conn. 226 ("[B]usiness and public records are generally admissible absent confrontation not because they qualify under an exception to the hearsay rules, but because—having been created for the administration of an entity's affairs and not for the purpose of establishing or proving some fact at trial—they are not testimonial. . . . Nonetheless, such records will be deemed testimonial if they were created for the purpose of establishing or proving some fact at trial." (Citations omitted; internal quotation marks omitted.)). In situations such as those present in *Williams*, there is "no plausible reason for the introduction of [the out-of-court] statements other than to establish their truth." *Williams* v. *Illinois*, supra, 104 (Thomas, J., concurring in the judgment).

analysts to testify at a criminal trial is overly burdensome on a laboratory. See, e.g., *Williams* v. *Illinois*, supra, 567 U.S. 117–18 (Thomas, J., concurring in the judgment). It is only the analysts, however, who perform the calling of the alleles and compare the DNA profiles, which, in turn, leads to the accusation against the defendant, and the defendant's sixth amendment right to confront his or her accusers outweighs any burden on the laboratory or the prosecution. "[A] laboratory that uses a . . . multiple-analyst model may adapt its operation so that a single analyst is qualified to testify as to the DNA profile testing." *People* v. *John*, supra, 27 N.Y.3d 313. First, and perhaps most effective, a laboratory could assign a single analyst to a case to draw all conclusions that would require testimony to comply with the confrontation clause, thereby necessitating only a single witness to testify about all DNA profiles and comparisons at the defendant's trial. Second, an analyst could observe the final stage of analysis for each DNA profile which he or she did not personally conduct, which would enable him or her to be cross-examined at trial as to why certain subjective, scientific decisions were made that led to the specific conclusions in the DNA profile developed and its comparison. Finally, in recognition that analysts leave employment, move away, or regrettably pass away before a case gets to trial, a testifying analyst could conduct his or her own, independent analysis of the raw data and draw independent conclusions about the DNA profiles.[10] See,

[10] This third manner in which to comply with the confrontation clause is particularly significant when a DNA profile is produced from an unknown sample and there are no immediately identifiable suspects. In some cases, it may be years or even decades before a suspect is identified, and then years from that point until the suspect is arrested, charged, and tried. In those cases, it is highly likely that the original analyst who created the DNA profile from the unknown sample is not available to testify, but another analyst who will testify can use his or her independent analysis to draw independent conclusions about the DNA profile. See, e.g., *State* v. *Lebrick*, supra, 334 Conn. 527 (second analyst who did not produce original ballistics report "applied his training and experience to the sources before him and

e.g., *State* v. *Lebrick*, supra, 334 Conn. 528 ("[w]here [an] [expert witness] present[s] [her] own independent [judgments], rather than merely transmitting testimonial hearsay, and [is] then subject to cross-examination, there is no [c]onfrontation [c]lause violation" (internal quotation marks omitted)); *People* v. *John*, supra, 27 N.Y.3d 315 ("[w]e conclude that an analyst who witnessed, performed or supervised the generation of defendant's DNA profile, or who used his or her independent analysis on the raw data, as opposed to a testifying analyst functioning as a conduit for the conclusions of others, must be available to testify"). Under each of these three scenarios, at least one analyst would be available to testify at trial about the DNA profiles, and a defendant could effectively cross-examine the analyst to elicit details regarding the subjective, scientific decisions that resulted in their development and comparison.[11]

reach[ed] an independent judgment, the basis of which could be tested through cross-examination" (internal quotation marks omitted)); *Young* v. *United States*, supra, 63 A.3d 1049 ("the prosecution may be allowed to call a substitute expert to testify when the original expert who performed the testing is no longer available (through no fault of the government), retesting is not an option, and the original test was documented with sufficient detail for another expert to understand, interpret, and evaluate the results" (internal quotation marks omitted)). In such cases, "neither [the original DNA report] nor any of the statements or conclusions contained therein [are] admitted into evidence, either as an exhibit or through the conduit of [the testifying expert's] live, in-court testimony. . . . [T]he jury [is] not informed of the nature of the reports on which [the testifying witness] relied, who generated the [original DNA] reports, what information they contained, or whether [the testifying expert's] opinions [are] consistent with the [original DNA] reports." *State* v. *Lebrick*, supra, 527.

[11] This application of the confrontation clause to the conclusions of analysts in the final stages of DNA analysis is consistent with this court's conclusions and holding in *State* v. *Walker*, supra, 332 Conn. 678. In that case, the expert witness developed a DNA profile by interpreting raw data generated from DNA extracted from an unknown sample collected from the crime scene, and she conducted the ultimate comparison of that DNA profile with the DNA profile from the known DNA extracted from the defendant's buccal swab. Id., 696. The expert witness "was not, however, involved in the analysis of the buccal swab, which was an essential compo-

IV

CONCLUSION

The confrontation clause does not require that evidence be infallible or even reliable, but guarantees a defendant the right to assess the reliability of hearsay statements that are testimonial in nature through cross-examination. See *Williams* v. *Illinois*, supra, 567 U.S. 113 (Thomas, J., concurring in the judgment); *State* v. *Walker*, supra, 332 Conn. 690. Courts around the country have grappled with the application of confrontation clause precedent established by *Melendez-Diaz*, *Bullcoming*, and *Williams* to DNA evidence, and have sought to satisfy a defendant's right to confrontation while sensibly placing some limit on the number of analysts that are necessary to testify at trial. See *Williams* v. *Illinois*, supra, 89 (Breyer, J., concurring); *People* v. *John*, supra, 27 N.Y.3d 314. Despite the sheer number of judges and justices dedicating time and effort to this complex area of the law, a major issue remains: "How does the [c]onfrontation [c]lause apply to crime laboratory reports and underlying technical statements made by laboratory technicians?" *Williams* v. *Illinois*, supra, 89 (Breyer, J., concurring).

While no single opinion from either the United States Supreme Court or this court states in a comprehensive manner which stages of DNA analysis do or do not implicate the confrontation clause, recent decisions from this court clearly dictate that the technicians

nent of the comparison making her opinion possible. There was no comparison without the buccal swab analysis. Rather, the known processing group conducted this analysis and provided the resulting DNA profile to [the expert witness] for her to use in her comparison. [The expert witness] neither participated in nor observed this analysis." Id. In addition, "[there was] no evidence contained within the record indicating that the known processing group provided [the expert witness] with the raw machine data generated from the preliminary stages of the analysis such that [she] could independently verify that the DNA profile had accurately been constructed." Id., 696–97.

"involved in the preliminary testing stages, specifically, the extraction, quantitation or amplification stages, are not necessary witnesses [because their statements do not violate the confrontation clause]. . . . Rather, it is the generated numerical identifiers and the calling of the alleles at the final stage of the DNA typing that effectively accuses [the] defendant of his role in the crime charged." (Citation omitted; internal quotation marks omitted.) *State* v. *Walker*, supra, 332 Conn. 719. Those witnesses, more specifically, must have personal knowledge relating to the analysis conducted in the calling of the alleles and the comparison of the DNA profiles that result.

For these reasons, I offer the following guidance when applying the confrontation clause to DNA evidence: (1) hearsay statements made by technicians involved in the preliminary stages of sample preparation are nontestimonial and, therefore, not subject to the confrontation clause; (2) machine generated raw data produced by electrophoresis machines are not subject to the confrontation clause; and (3) analysts involved in the calling of the alleles and in generating numerical identifiers to develop a DNA profile for known and unknown samples, as well as analysts who compare those two profiles, are subject to the confrontation clause, and the defendant must have an opportunity to cross-examine these declarants.

For the foregoing reasons, I respectfully concur.