

## SYLLABUS

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### **State v. Reginald Roach (A-129-11) (068874)**

**[NOTE: This is a companion case to State v. Julie L. Michaels, also filed today.]**

**Argued March 4, 2014 -- Decided August 6, 2014**

**LaVECCHIA, J., writing for a majority of the Court.**

In this appeal, the Court considers whether defendant's confrontation rights were violated by the testimony of an analyst who matched defendant's DNA profile to DNA evidence left by the perpetrator at the scene of the offense, but who was not the analyst who performed the testing procedures that provided the basis for the DNA profile developed from the perpetrator's evidence.

On November 5, 2005, a masked man robbed and raped sixty-four-year-old H.H. while pointing a sharp object at her neck. H.H. was taken to a Rape Crisis Center where a nurse performed a forensic examination and prepared a sexual assault kit. Vaginal, anal, buccal, and fingernail swabs were taken from H.H., dry secretions were collected from her inner thighs, and slides were prepared from the swabs. Those samples, along with H.H.'s clothes, were sent to the State Police Forensic Laboratory (State Lab) for analysis. Charles Williams, a forensic scientist in the Biochemistry Department, tested the items in the sexual assault kit for blood and sperm. The slides tested positive. The specimens were sent to the State Lab's DNA Department along with H.H.'s buccal swab.

The police identified E.A. as a suspect and sent his buccal swap to the State Lab. On November 16, 2005, Linnea Schiffner, a forensic scientist with the DNA Department, received H.H.'s sexual assault kit and the buccal swabs taken from H.H. and E.A. Schiffner was able to create a full DNA profile for the perpetrator from samples taken from H.H., as well as profiles for H.H. and E.A. from their respective buccal swabs. She concluded that E.A.'s DNA profile did not match that of the male contributor to the samples taken from H.H. Schiffner prepared a report, dated December 7, 2005, listing the samples that she had tested, setting forth an allele table listing the DNA profiles, and stating her conclusion that E.A.'s DNA profile did not match that of the perpetrator.

Subsequently, defendant was identified as a suspect, and, when police officers stopped him, they found a pair of black gloves and a small sharpened stick. Defendant's buccal swab was sent to the State Lab for analysis. Because Schiffner had relocated to Wisconsin for reasons the trial court found unrelated to job performance, the H.H. case file and defendant's buccal swab were assigned to Jennifer Banaag, another forensic scientist in the DNA Department. Banaag analyzed defendant's buccal swab and generated a full DNA profile for defendant. She then compared defendant's DNA profile with the profiles generated from the specimens taken from H.H.'s inner thighs, and concluded that defendant was the source of the DNA on H.H.'s samples. As part of this process, Banaag reviewed Schiffner's report and all the underlying data, as well as all files relating to the case. Banaag checked "everything" from the initials and dates on each page to the "data calls" Schiffner had made in generating the profiles. Banaag issued a signed report, dated February 24, 2006, stating her conclusion that defendant was the source of the DNA found in the samples taken from H.H., and containing an allele table with the DNA profile she had generated for defendant and the DNA profiles reported by Schiffner. Defendant was charged with aggravated sexual assault, burglary, and other offenses related to the attack on H.H.

The key issue at trial was identity, which turned on the DNA analysis. Williams and Banaag testified for the State, but Schiffner did not testify. Defendant objected to any testimony by Banaag about Schiffner's analysis, arguing that it was hearsay and violated his right to confront the analyst who had performed the tests being used against him. The court overruled defendant's objection. Banaag testified that she had made an "independent data analysis for the buccal swab that [she] received, went back and reviewed Miss Schiffner's case and made [her] own independent conclusions." Banaag went on to state her conclusion that "within a reasonable scientific certainty . . . Reginald Roach is identified as the source of the DNA profile" obtained from the samples taken from H.H.

The jury found defendant guilty of aggravated sexual assault, burglary, and other charges, and the court sentenced defendant to an aggregate forty-year prison term. The Appellate Division affirmed, and this Court granted defendant's petition for certification. State v. Roach, 211 N.J. 607 (2012).

**HELD:** Defendant's confrontation rights were not violated by the testimony of the analyst who matched his DNA profile to the profile left at the scene by the perpetrator. Defendant had the opportunity to confront the analyst who personally reviewed and verified the correctness of the two DNA profiles that resulted in a highly significant statistical match inculcating him as the perpetrator. In the context of testing for the purpose of establishing DNA profiles for use in an expert's comparison of DNA samples, a defendant's federal and state confrontation rights are satisfied so long as the testifying witness is qualified to perform, and did in fact perform, an independent review of testing data and processes, rather than merely read from or vouch for another analyst's report or conclusions.

1. The Sixth Amendment to the United States Constitution, made applicable to the States through the Fourteenth Amendment, provides an accused the right "to be confronted with the witnesses against him." The New Jersey Constitution provides a cognate guarantee to an accused in a criminal trial. See N.J. Const. art. I, ¶ 10. As modern United States Supreme Court confrontation case law has explicated, the right to confront witnesses guaranteed to an accused applies to all out-of-court statements that are "testimonial." Crawford v. Washington, 541 U.S. 36, 68, 124 S. Ct. 1354, 1374, 158 L. Ed. 2d 177, 203 (2004). If testimonial, the statement is inadmissible unless the witness is unavailable to testify and the defendant had had a prior opportunity for cross-examination. New Jersey's state confrontation jurisprudence has followed the federal approach. (pp. 22-23)

2. As explained in the Court's companion case, State v. Michaels, \_\_ N.J. \_\_ (2014), also issued today, the Supreme Court has considered Crawford's application in three cases involving forensic reports: Melendez-Diaz v. Massachusetts, 557 U.S. 305, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009); Bullcoming v. New Mexico, 564 U.S. \_\_, 131 S. Ct. 2705, 180 L. Ed. 2d 610 (2011); and Williams v. Illinois, 567 U.S. \_\_, 132 S. Ct. 2221, 183 L. Ed. 2d 89 (2011). In Michaels, *supra*, this Court examined those recent decisions and chronicled the development of confrontation law through Williams, the most recent Supreme Court case, in which members of the Court authored three opinions that espoused divergent analytic approaches. \_\_ N.J. \_\_ (slip op. at 17-37). Because a majority of the Supreme Court failed to accept the analytic approach of the plurality opinion, this Court concluded that Williams's force as precedent was unclear. *Id.* at \_\_ (slip op. at 43). Accordingly, in this matter, the Court determines to use the pre-Williams Confrontation Clause holdings on forensic evidence, as it did in Michaels. (pp. 23-25)

3. In this matter, defendant modeled his challenge after Bullcoming, arguing that the opportunity to cross-examine Banaag is an insufficient substitute for his right to confront the analyst who actually performed the testing on the DNA evidence left by the perpetrator on the body of the victim. The Court notes at the outset that Schiffner's report was not introduced at trial, and thus finds that this matter differs from Bullcoming and Melendez-Diaz, where the disputed reports were placed in evidence. That said, the Court considers defendant's confrontation challenge with the understanding that Schiffner's report was integral to Banaag's testimony, and that components of it were incorporated in Banaag's expert report. The Court notes, as it did in Michaels, *supra*, that neither Bullcoming's holding nor Melendez-Diaz's requires that every analyst involved in a testing process must testify in order to satisfy confrontation rights. \_\_ N.J. at \_\_ (slip op. at 44). Nor do they lead to the conclusion that in every case, no matter the type of testing involved or the type of review conducted by the person who does testify, the primary analyst involved in the original testing must testify to avoid a Confrontation Clause violation. *Ibid.* Against that backdrop, the Court finds that defendant's reliance on Bullcoming is unwarranted. Unlike Banaag, the testifying witness in Bullcoming was a "surrogate" who had no connection to the report about which he testified other than being familiar with the laboratory's testing procedures. (pp. 25-28)

4. In reaching its conclusion, the Court draws from Justice Sotomayor's separate opinion in Bullcoming, which noted that the Supreme Court's holding did not address and, therefore, did not reject, testimony by a supervisor or an otherwise independent reviewer of data. Following that guidance, this Court held in Michaels, *supra*, that a supervisor could testify about the results of the testing in a report that he authored, signed, and certified, based upon his knowledge of the laboratory's testing procedures and protocols generally and his training and knowledge of the particular testing involved. \_\_ N.J. \_\_ (slip op. at 4, 67). The Court finds that its reasoning applies with comparable force to the analogous circumstance of a non-supervisory co-worker or other independent reviewer, who is trained in the testing and is knowledgeable about the laboratory's processes and protocols, and who testifies based

on his or her independent review of raw data and the conclusions that he or she has drawn from that data. The Court cautions, however, the testimony must be provided by a truly independent and qualified reviewer of the underlying data and report, and the witness may not merely parrot the findings of another. The independent reviewer – just like a supervisor who signs and certifies a report – must draw conclusions based on his or her own findings, and his or her verification of the data and results must be explained on the record. (pp. 28-31).

5. The Court considers Banaag’s testimony against that backdrop and determines that Banaag sufficiently explained how she used her scientific expertise and knowledge to independently review and analyze the graphic raw data that was the computer-generated product of Schiffner’s testing. Although the Court finds that Banaag’s independent interpretation of the machine-generated data converted raw data into unmistakably testimonial material subject to the Confrontation Clause, it holds that confrontation requirements were satisfied by defendant’s ability to cross-examine Banaag. (pp. 32-34).

6. In response to the dissenting opinion, the Court notes, as it did in Michaels, that defendant’s confrontation rights were not sacrificed because he had the opportunity to confront Banaag on her conclusions and on the facts that she independently reviewed, verified, and relied on in reaching those conclusions. The Court emphasizes that this is not a case where the testifying analyst merely read from another analyst’s report. Rather, Banaag carefully reviewed and analyzed all the underlying machine-generated data and formed her own conclusions about the results to which she testified. Accordingly, the Court holds that defendant’s confrontation rights were satisfied by his opportunity to confront Banaag on the DNA evidence used at his trial. (pp. 34-36).

The judgment of the Appellate Division is **AFFIRMED**.

**JUSTICE ALBIN, DISSENTING**, expresses the view that Schiffner’s test results were testimonial statements that incriminated defendant and thus the Confrontation Clause does not permit Banaag, an analyst who did not perform, participate in, or observe underlying laboratory tests, to give surrogate testimony for Schiffner, the absent analyst who did the testing and recorded the results.

**CHIEF JUSTICE RABNER, JUSTICES PATTERSON and FERNANDEZ-VINA, and JUDGES RODRÍGUEZ and CUFF (both temporarily assigned) join in JUSTICE LaVECCHIA’s opinion. JUSTICE ALBIN filed a separate, dissenting opinion.**

STATE OF NEW JERSEY,

Plaintiff-Respondent,

v.

REGINALD ROACH a/k/a REGINALD  
W. HOLMES,

Defendant-Appellant.

Argued March 4, 2014 - Decided August 6, 2014

On certification to the Superior Court,  
Appellate Division.

Stephen W. Kirsch, Assistant Deputy Public  
Defender, argued the cause for appellant  
(Joseph E. Krakora, Public Defender,  
attorney).

Frank J. Ducoat, Deputy Attorney General,  
argued the cause for respondent (John J.  
Hoffman, Acting Attorney General of New  
Jersey, attorney).

JUSTICE LAVECCHIA delivered the opinion of the Court.

Defendant, Reginald Roach, was convicted by a jury of  
aggravated sexual assault, burglary, and other offenses related  
to the home invasion and rape of a sixty-four-year-old woman.  
The issue on appeal to this Court is whether defendant's  
confrontation rights were violated because the DNA analyst who  
testified at trial, and who matched the DNA profile developed

from defendant's buccal swab to DNA evidence left by the perpetrator at the scene of the offense, did not perform the testing procedures that provided the basis for the DNA profile developed from the perpetrator's evidence.

At trial, the evidence from the testifying analyst demonstrated that she had conducted her own review of the DNA testing results obtained from samples of the sperm and blood found on the victim after the sexual assault. The analyst explained how she had independently reviewed the data and file materials produced through the lab's processes by a non-testifying analyst who had conducted DNA testing of the perpetrator's blood and sperm. The testifying analyst explained that she engaged in that independent review to satisfy herself that she had a correct DNA profile to rely on in order to provide an expert comparison of DNA profiles. She then detailed how she compared the profile obtained from the other analyst's testing of the perpetrator's DNA, which she had reviewed and verified, with the profile she had obtained from her own testing of defendant's buccal swab after he had become a suspect in the investigation.

As we explained in the companion case of State v. Michaels, \_\_ N.J. \_\_ (2014), issued today, current Confrontation Clause jurisprudence does not hold that the testimony of the original person to have performed forensic testing is required in all

instances, regardless of the type of testing and the knowledge and independence of review and judgment of the testifying witness. In the context of testing for the purpose of establishing DNA profiles for use in an expert's comparison of DNA samples, we conclude that a defendant's federal and state confrontation rights are satisfied so long as the testifying witness is qualified to perform, and did in fact perform, an independent review of testing data and processes, rather than merely read from or vouch for another analyst's report or conclusions.

Here, the testifying analyst engaged in an independent review of DNA testing through which she personally verified the correctness of a DNA profile generated from the perpetrator's sperm before she used it in making a comparison to defendant's buccal swab and forming her expert conclusions. In this setting, we hold that defendant's confrontation rights were not violated by her testimony. Defendant had the opportunity to confront the analyst who personally reviewed and verified the correctness of the two DNA profiles that resulted in a highly significant statistical match inculcating him as the perpetrator. We therefore affirm the judgment of the Appellate Division.

#### I.

We begin with a description of the incident that led to the

trial, and then focus on the Confrontation Clause challenge to the forensic evidence presented in this case. The facts as set forth are derived from the evidence admitted at defendant's trial.

A.

During the night of November 5, 2005, while sleeping in the second-floor bedroom of her North Brunswick apartment, the victim, H.H. was awoken by a masked man pointing a sharp object at her neck and demanding money. She led him downstairs to a drawer where she kept cash. He took the money and then, while still holding the object to her neck, forced her to return to the bedroom, where he raped her. H.H. called 9-1-1 after the perpetrator fled the scene. H.H. later described her attacker to the police as African American, slim, soft-spoken, and taller than she. She was unable to identify him because she had not seen his face. She also could not identify the sharp object he had held to her neck.

H.H. was taken to a Rape Crisis Center where a nurse performed a forensic examination and prepared a sexual assault kit. Vaginal, anal, buccal, and fingernail swabs were taken from H.H., dry secretions were collected from her inner thighs, and slides were prepared from the swabs. Those samples, along with H.H.'s nightgown and underpants, were sent to the State Police Forensic Laboratory (State Lab) for analysis.

Charles Williams, a forensic scientist in the Biochemistry Department of the State Lab, tested the items in the sexual assault kit for the presence of blood and sperm. The vaginal slide tested positive for sperm, the external genital specimen and anal swab tested positive for blood, and the dried secretions from H.H.'s thighs tested positive for both blood and sperm. Those specimens were sent to the DNA Department of the State Lab along with H.H.'s buccal swab.

Shortly after the assault, the police identified as a suspect a person to whom we will refer as E.A. A buccal swab was obtained from him and sent to the State Lab on November 14, 2005.

#### B.

We digress briefly to describe generally the standard procedures used at the State Lab to generate a DNA profile from a biological sample. The process was explained at trial by the State's expert witness, Jennifer Banaag, a forensic scientist employed in the State Lab's DNA department.

Banaag testified that the State Lab uses a four-step process to generate a DNA profile from a sample: (1) extraction, which involves placing a small piece of the sample in a test tube with chemical reagents that liberate the DNA; (2) quantification, which is done to determine the amount of DNA in the sample; (3) polymerase chain reaction amplification, in



which the DNA from the extraction phase is placed with reagents in test tubes and heated in a "thermocycler" machine so that thirteen key sections, or loci, of the DNA are multiplied "billions and billions of times"; and (4) detection, in which the multiplied DNA, along with an "allele-like ladder," is placed in a Genetic Analyzer machine where it travels through a capillary tube and past a laser that reads the length of the DNA fragments.

The Genetic Analyzer produces a machine-generated graph with peaks that identify the lengths of the DNA fragments at each locus, and the machine labels or "calls" the peaks on the graph by comparing them to the ladder. The analyst can check that the machine is operating properly by confirming that the ladder is labeled correctly. A full DNA profile contains two sequences or alleles for each of the thirteen loci, while an incomplete profile may lack values at some loci. In preparing a DNA report, the analyst copies the values called for each locus shown on the graph produced by the Genetic Analyzer into an allele table. The allele table contains a column for each sample tested, enabling a reader to easily compare the DNA profiles generated from the different samples.

According to Banaag's trial testimony, the State Lab takes a number of precautions when processing samples to protect the quality and integrity of the samples and results. Specifically,

the lab tests its reagents before they are used; analysts wear protective clothing such as hairnets, lab coats, and gloves; a second analyst verifies labeling and paperwork any time a sample is cut or transferred from one tube to another; bench tops and equipment are cleaned with bleach and ethanol; and unknown samples are processed separately from known samples.

C.

On November 16, 2005, Linnea Schiffner, a forensic scientist with the DNA Department of the State Lab, received the items from H.H.'s sexual assault kit that had tested positive for blood or sperm, as well as the buccal swabs taken from H.H. and E.A. Schiffner performed a differential extraction on each specimen to separate the sperm cells from the skin cells, creating separate "sperm-cell fraction" (SCF) and "non-sperm-cell fraction" (NSCF) samples from each specimen. She then analyzed the buccal swabs and the SCF and NSCF samples from each specimen to generate DNA profiles.

Based on the analysis Schiffner performed, she was able to create a full DNA profile for the individual who had contributed the sperm cells to the specimens taken from H.H., as well as profiles for H.H. and E.A. from their respective buccal swabs. She concluded that E.A.'s DNA profile did not match that of the male contributor to the samples taken from H.H. Schiffner prepared a report, dated December 7, 2005. The report listed

the samples that Schiffner had tested, set forth an allele table listing the DNA profiles generated for each sample by the Genetic Analyzer, and stated Schiffner's conclusion that E.A. was excluded as a possible contributor to the DNA profiles from the sperm cell fractions of the inner thigh samples taken from H.H. Schiffner signed each page of the December 7, 2005, report.

Several weeks after H.H.'s assault, defendant, an African American man who lived in the apartment complex adjacent to H.H.'s, was identified as a suspect. On December 22, 2005, North Brunswick police officers stopped defendant in the parking lot of his apartment complex and searched him, finding a pair of black gloves, keys, a lighter, a crack pipe, and a small sharpened stick in his pocket. The officers obtained defendant's fingerprints and a buccal swab, and sent the buccal swab to the State Lab for analysis.

Because Schiffner had relocated to Wisconsin, the H.H. case file and defendant's buccal swab were assigned to Jennifer Banaag, another forensic scientist in the DNA Department, who issued a report dated February 24, 2006. Banaag analyzed the DNA from defendant's buccal swab using the lab's standard procedures and generated a full DNA profile for defendant. Banaag compared the profile she had generated from defendant's buccal swab with the profiles generated from the specimens taken

from H.H.'s inner thighs, and concluded that, within a reasonable degree of scientific certainty, defendant was the source of the DNA in the samples taken from H.H. Based on her statistical calculations, Banaag determined that the DNA profile found in those samples occurs in only one in approximately 1.3 quintillion African Americans.

Banaag reviewed Schiffner's report and all the underlying data generated by Schiffner's testing procedures, as well as all files relating to the case. As part of this review, Banaag testified that she checked "everything" from the initials and dates on the pages to the "data calls" made by Schiffner in generating the profiles that she reported. Thus, Banaag's review included reaching her own conclusions as to the correctness of the value called for each locus used in creating the allele table. Essentially, through her review she verified the allele table for the sample that Schiffner had tested. Banaag prepared a signed report containing an allele table with the DNA profile she had generated from defendant's buccal swab and the DNA profiles reported by Schiffner for the samples taken from H.H. The report stated Banaag's conclusion that defendant was the source of the DNA found in the samples taken from H.H. after the assault.

D.

On March 2, 2006, defendant was charged with second-degree

burglary, N.J.S.A. 2C:18-2 (count one); third-degree criminal restraint, N.J.S.A. 2C:13-2 (count two); first-degree robbery, N.J.S.A. 2C:15-1 (count three); first-degree aggravated sexual assault, N.J.S.A. 2C:14-2(a)(4) (count four); first-degree aggravated sexual assault, N.J.S.A. 2C:14-2(a)(3) (count five); second-degree sexual assault, N.J.S.A. 2C:14-2(c) (count six); third-degree possession of a weapon for an unlawful purpose, N.J.S.A. 2C:39-4(d) (count seven); two counts of fourth-degree unlawful possession of a weapon, N.J.S.A. 2C:39-5(d) (counts eight and nine); and fourth-degree resisting arrest, N.J.S.A. 2C:29-2 (count ten).

At defendant's trial before a jury in January 2007, the key issue was identity, which turned on the DNA analysis performed at the State Lab because H.H. could not identify her attacker and no fingerprints had been found at the crime scene.

In respect of the DNA evidence, the State presented the testimony of two expert witnesses: Williams, who had tested the samples from the sexual assault kit for blood and sperm, and Banaag, who had created a DNA profile from defendant's buccal swab and compared it to the profiles generated by Schiffner from the samples taken from H.H., which Banaag had verified based on her independent review of that data. The State also presented the testimony of the nurse who had examined H.H. at the sexual assault crisis center and had collected the samples that were

sent to the State Lab. Schiffner did not testify.

It is Banaag's testimony that gives rise to defendant's claim of a violation of his confrontation rights.

When the State called Banaag, defendant objected to any testimony by Banaag about the analysis performed by Schiffner. Defendant argued that testimony by Banaag about tests performed by Schiffner was hearsay and violated defendant's right to confront the analyst who had performed the tests being used against him. The State argued that Banaag, as an expert, had properly relied on Schiffner's work in performing her own independent analysis, and that defendant had the opportunity to subpoena Schiffner if he chose to do so. Accepting the State's representation that Schiffner's departure from employment at the State Lab had not been due to a termination for incompetence, the court overruled defendant's objection and allowed Banaag's testimony.

E.

Banaag began by describing her duties at the State Lab, discussing the lab's accreditation, explaining the basic principles of DNA analysis, and describing the testing methodologies used at the State Lab. Banaag stated that she had followed those standard processes with defendant's buccal swab and explained the results of her analysis. She described the profile she generated from defendant's DNA sample, stating which

values pertained at each of the thirteen loci.

Banaag also identified Schiffner's report when the prosecutor showed it to her, and she discussed the work done by Schiffner. Specifically, Banaag explained which samples Schiffner had tested and how Schiffner had separated the sperm-cell and non-sperm-cell fractions of those samples. Banaag stated, "I [took] the data that I generate[d] from the buccal swab, the DNA profile, and I compared it to any of the profiles that were generated by Miss Schiffner when she did her analysis of the specimens that were received for this case." Banaag testified, "I made [an] independent data analysis for the buccal swab that I received, went back and reviewed Miss Schiffner's case and made my own independent conclusions." Banaag then stated that she had incorporated the DNA profile generated by Schiffner into her report. She explained her comparison of the profiles for the jury, stating in detail the values that she and Schiffner had found at each locus from their respective samples.

Banaag described her review of Schiffner's work as follows:

I would have taken Miss Schiffner's entire case file and gone through and reviewed every single page in that case. I look for anything from dating and initials and all the pages. I also make sure all of the data calls that she made are correct and that I agree with them and that all of the information that she reported out in her report [is] accurate.

When the prosecutor asked Banaag whether she "agree[d] with

[Schiffner's] results," Banaag responded "Yes, I do."

Banaag went on to state her conclusion that "within a reasonable scientific certainty . . . Reginald Roach is identified as the source of the DNA profile obtained from specimens number 1-6-1 SCF and 1-6-2 SCF," the sperm cell fractions of the samples taken from H.H.'s inner thighs. Quantifying that certainty, Banaag stated that, based on her statistical calculations, she had determined that the DNA profile obtained from those samples occurs in approximately one in 1.3 quintillion African Americans.

When asked about the integrity of the samples and testing in this case, Banaag testified that she "didn't see any indication that any of the samples were compromised" because "if you just look at the data generated, the data is consistent with either being from the victim or the suspect. There aren't any indications of there being a third individual in the DNA."

Defendant's cross-examination of Banaag focused on the procedures used in DNA analysis generally and the possibility of contamination of the sample during the amplification step, as well as Banaag's calculation of the frequency of occurrence of the profile in the African American population and the meaning of the ratio she had calculated. Banaag explained in detail the process by which the profiles are generated from the data produced by the analyzer machine:



[Banaag:] . . . [T]he data is then generated with the peaks that you saw in that one graph. [The analyzer] will generate peaks [] based on the size of the DNA fragments that pass through that window . . . .

[Defense attorney:] With regard to those peaks who determines what numbers to attribute to any of the peaks with regard it will be 12, 13 or, who determines that?

[Banaag:] Every run that we put through the 3100s,<sup>1</sup> every run that's put on the genetic analysis has an al[l]ele like ladder that runs with it. . . . The ladder is run with every single 3100 run that we put on and the ladder is sized and all of the samples that are run through on that run are sized compared to the ladder.

[Defense attorney:] Who does it?

[Banaag:] When we pull off the data from the instrument we examine the ladder to make sure all the peaks are labeled correctly and in doing that we then look at the data that is generated for each of the samples. That automatically calls all of the peaks in each of the samples as compared to the ladder so we do make sure the ladder is called correctly and we look at the data that's generated for the samples in comparison to the ladder.

[Defense attorney:] The computer is the one that analyzes everything and spits it out for you?

[Banaag:] Basically it extrapolates the sizes of the ladder and extrapolates the sizes of the base calls for each of the samples so we do get a printout with those peaks on it. The al[l]ele calls are already labeled and that's what we use to analyze

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<sup>1</sup> 3100 is the series number of the analyzer machines used by the State Police Lab.

our data. Those are the peak heights and peak calls that we use in our reports.

[Defense attorney:] If the computer is wrong, can you fix it?

[Banaag:] Wrong in what sense?

[Defense attorney:] You say you're verifying the al[1]ele calls, is that correct?

[Banaag:] That's correct.

[Defense attorney:] So if the computer isn't wrong what is there to verify?

[Banaag:] Well, the only way we would be able to tell if there was anything wrong is if there's something unusual with the ladder. That's kind of the standard that we're measuring all the samples by at this point. If the ladders are correct we assume that the calls that are made for each of the samples is correct also and we do performance checks on our instruments. We have records of those performance checks.

Defense counsel did not ask Banaag any questions relating to the specific details of how she conducted the tests on defendant's buccal swab or any errors she might have made while doing so.

Defendant chose not to testify on his own behalf and he called no witnesses.

Following an eight-day trial, the jury found defendant guilty of second-degree burglary, two counts of first-degree aggravated sexual assault, second-degree sexual assault, and third-degree possession of a weapon for an unlawful purpose. Defendant was sentenced to an aggregate forty-year prison term

with an eighty-five percent parole disqualifier under the No Early Release Act, N.J.S.A. 2C:43-7.2.

The Appellate Division affirmed defendant's conviction and sentence in an unpublished opinion dated August 1, 2011. On the issue of whether Banaag's testimony referencing Schiffner's results violated defendant's confrontation rights, the panel began by reviewing the United States Supreme Court's decisions in Crawford v. Washington, 541 U.S. 36, 124 S. Ct. 1354, 158 L. Ed. 2d 177 (2004), Melendez-Diaz v. Massachusetts, 557 U.S. 305, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009), and Bullcoming v. New Mexico, 564 U.S. \_\_\_, 131 S. Ct. 2705, 180 L. Ed. 2d 610 (2011).<sup>2</sup>

Addressing hearsay issues first, the panel noted that Banaag was qualified as an expert under N.J.R.E. 702 and that under N.J.R.E. 703 she could properly rely on Schiffner's work as a basis for her expert opinion. Turning to confrontation issues, the panel found that Banaag had independently reviewed Schiffner's work, that Banaag had determined that it was appropriate for her to use the profile generated by Schiffner, and that Banaag had compared that profile to the profile Banaag herself generated from defendant's buccal swab. The panel concluded that Banaag was therefore not a "mere conduit" for

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<sup>2</sup> Williams v. Illinois, 567 U.S. \_\_\_, 132 S. Ct. 2221, 183 L. Ed. 2d 89 (2012), the Supreme Court's most recent case addressing the Confrontation Clause in the context of testimony by laboratory analysts, had not yet been decided at the time the Appellate Division rendered its decision.

Schiffner's analysis. The panel distinguished this case from Melendez-Diaz and Bullcoming by noting that, even if Schiffner's report was testimonial, it was not entered into evidence by the prosecution or provided to the jury during deliberations. Quoting its decision in State v. Rehmann, 419 N.J. Super. 451, 457 (App. Div. 2011), the Appellate Division concluded that "[a]nother expert may be called instead of the original analyst, so long as the testifying witness 'has made an independent determination as to the results offered.'"

Finding no other trial error, the panel determined that the trial court erred in sentencing by not merging defendant's convictions under N.J.S.A. 2C:14-2(a)(3) and N.J.S.A. 2C:14-2(a)(4), but otherwise upheld defendant's forty-year aggregate sentence.

We granted defendant's petition for certification, which raised only Confrontation Clause issues. State v. Roach, 211 N.J. 607 (2012).

## II.

### A.

Before this Court, defendant argues that allowing Banaag to testify to the results of Schiffner's analysis violated his confrontation rights under the Sixth Amendment.

Relying on Melendez-Diaz, supra, 557 U.S. at 311, 129 S. Ct. at 2532, 174 L. Ed. 2d at 321-22, defendant asserts that

laboratory test results used to prove the elements of a crime are testimonial and that their introduction violates the Confrontation Clause if the scientist who performed the tests is not subject to cross-examination. Defendant also notes that Melendez-Diaz held that the Confrontation Clause places the burden on the prosecution to present witnesses, and that the ability of the defense to call a witness as part of its own case is not an adequate substitute. Id. at 324, 129 S. Ct. at 2540, 174 L. Ed. 2d at 330.

Defendant contends that this case is substantially similar to Bullcoming, in which the United States Supreme Court held that introducing the results of lab tests conducted by a non-testifying analyst through the testimony of another analyst violated the defendant's confrontation rights. Defendant emphasizes that, in this case, the details of what Schiffner said she did in creating defendant's DNA profile were placed before the jury through Banaag's testimony, while Schiffner's absence denied defendant the opportunity to cross-examine her methods.

Defendant asserts that none of the limitations to the Bullcoming opinion discussed by Justice Sotomayor in her concurrence are applicable in this case. See id. at \_\_\_, 131 S. Ct. at 2722, 180 L. Ed. 2d at 628-30 (Sotomayor, J., concurring). Defendant argues that Rehmann, which concerned a

testifying scientist who directly observed the testing procedures, should not be extended to allow testimony by an analyst who independently reviewed but did not observe the work in question.

Although defendant states that Williams v. Illinois, 567 U.S. \_\_\_, 132 S. Ct. 2221, 183 L. Ed. 2d 89 (2012), may have called into question the viability of the Crawford/Melendez-Diaz/Bullcoming line of cases, he argues that the decision should be confined to its facts. Although defendant acknowledges the closeness of the facts in Williams to those in his case, he notes that Williams was a bench trial while his case was tried by a jury, and that in Williams the testifying analyst only stated that the profiles matched whereas here Banaag explained what Schiffner did in creating the profile and described in detail the results that Schiffner reported.

In the alternative, defendant urges this Court to find that Banaag's testimony violated his confrontation rights under the New Jersey Constitution. Citing State v. Basil, 202 N.J. 570 (2010), State ex rel. J.A., 195 N.J. 324 (2008), and State v. Branch, 182 N.J. 338 (2005), defendant argues that this Court has embraced a version of the "primary purpose" test that is closer to that expressed in Justice Kagan's dissent in Williams than to that expressed in Justice Alito's plurality opinion. Defendant argues that, based on those cases, Schiffner's

scientific "description of a perpetrator" should not be admissible through Banaag's testimony.

B.

The State argues that Banaag's testimony did not violate defendant's constitutional confrontation rights. The State first asserts that Banaag, as an expert witness, properly considered Schiffner's results when making her independent determination that there was a match between the two profiles. The State argues that neither N.J.R.E. 703 nor the Confrontation Clause as explained by Crawford and its progeny prohibit an expert from testifying to her own opinion, even when that opinion is based in part on inadmissible facts or data, so long as the underlying information is not admitted into evidence. The State cites cases from California, Massachusetts, North Carolina, Tennessee, Texas, and Wisconsin to support its claim that the majority of jurisdictions have interpreted Crawford to allow the admission of expert opinions that rely on hearsay information, including analyses performed by other scientists.

Reviewing Melendez-Diaz and Bullcoming, the State argues that neither requires a finding that Banaag's testimony violated defendant's confrontation rights. The State points out that the Court in Melendez-Diaz, supra, expressly stated that the Confrontation Clause does not require testimony by everyone "relevant in establishing the chain of custody, authenticity of

the sample, or accuracy of the testing device.” 557 U.S. at 311 n.1, 129 S. Ct. at 2532 n.1, 174 L. Ed. 2d at 322 n.1. The State further notes that, unlike this case, Melendez-Diaz involved sworn affidavits admitted into evidence without supporting expert testimony. Id. at 308-09, 129 S. Ct. at 2531, 174 L. Ed. 2d at 320. The State cites cases from Alaska, Arizona, Florida, Georgia, and Ohio to support its argument that most jurisdictions have not found Confrontation Clause violations when, as in this case, an expert testified to his or her own conclusions based on the results of tests performed by another analyst.

The State argues that this case is more comparable to one of the situations Justice Sotomayor described in her concurrence as not covered by Bullcoming, supra -- namely, a case in which “an expert witness was asked for his independent opinion about underlying testimonial reports that were not themselves admitted into evidence.” 564 U.S. at \_\_\_, 131 S. Ct. at 2722, 180 L. Ed. 2d at 629 (Sotomayor, J., concurring). The State also asserts that the allele table generated by Schiffner is machine-generated raw data, and therefore not testimonial under Bullcoming.

The State contends that the facts of this case are analogous to the facts of Williams, and Williams should be controlling here. The State asserts that the distinctions



identified by defendant are not of constitutional significance because the risk of jury confusion is non-existent and the amount of detail about Schiffner's work that was testified to is not dispositive.

Finally, the State urges this Court to reject defendant's argument that the case be decided in his favor on state constitutional grounds. The State emphasizes that we have never interpreted Article I, Paragraph 10 more expansively than its essentially identical federal counterpart, and that the Hunt<sup>3</sup> factors, which outline certain considerations for determining when to rely on the State Constitution as an independent source of individual rights, provide no basis for doing so here.

### III.

We have before us defendant's claim of a violation of his confrontation rights. The Sixth Amendment to the United States Constitution, made applicable to the States through the Fourteenth Amendment, provides an accused the right "to be confronted with the witnesses against him." The New Jersey Constitution provides a cognate guarantee to an accused in a criminal trial. See N.J. Const. art. I, ¶ 10. Our state confrontation case law traditionally has relied on federal case law to ensure that the two provisions provide equivalent

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<sup>3</sup> State v. Hunt, 91 N.J. 338, 364-68 (1982) (Handler, J., concurring).

protection. See State v. Miller, 170 N.J. 417, 425-26 (2002); see also State v. Cabbell, 207 N.J. 311, 328 & n.11 (2011) (noting interchangeability of clauses' protections).

As modern United States Supreme Court confrontation case law has explicated, the right to confront witnesses guaranteed to an accused applies to all out-of-court statements that are "testimonial." Crawford, supra, 541 U.S. at 68, 124 S. Ct. at 1374, 158 L. Ed. 2d at 203. Our state confrontation jurisprudence has followed the federal approach, focusing on whether a statement is testimonial. See State v. Michaels, \_\_\_ N.J. \_\_\_, \_\_\_ (2014) (slip op. at 41-43) (citing our adoption of and adherence to federal "primary purpose" test for determining whether statement is testimonial). If a statement is testimonial, then Crawford, supra, holds that "the Sixth Amendment demands what the common law required: unavailability and a prior opportunity for cross-examination." 541 U.S. at 68, 124 S. Ct. at 1374, 158 L. Ed. 2d at 203. Our decisions have followed that analysis in confrontation cases arising post-Crawford. See, e.g., Cabbell, supra, 207 N.J. at 328-30; J.A., supra, 195 N.J. at 348-51; State v. Buda, 195 N.J. 278, 304-08 (2008).

Since 2004, the Supreme Court has considered in three cases how to apply Crawford's holding in the context of forensic reports: Melendez-Diaz, supra, 557 U.S. 305, 129 S. Ct. 2527,

174 L. Ed. 2d 314; Bullcoming, supra, 564 U.S. \_\_\_, 131 S. Ct. 2705, 180 L. Ed. 2d 610; and Williams, supra, 567 U.S. \_\_\_, 132 S. Ct. 2221, 183 L. Ed. 2d 89. In Michaels, supra, \_\_\_ N.J. \_\_\_, a companion case issued today with this one, we examined those recent decisions.

In Michaels, we chronicled the development of confrontation law in United States Supreme Court decisions through the most recent case of Williams, in which members of the Court espoused divergent analytic approaches, even for addressing the threshold question of whether the DNA forensic report in issue contained testimonial statements. Id. at \_\_\_ (slip op. at 17-37). We concluded that the three opinions that were issued in Williams took such differing approaches to determining whether the use of forensic evidence violates the Confrontation Clause that we could not identify a narrow rule that would have the support of a majority of the Supreme Court. Id. at \_\_\_ (slip op. at 37-43). Moreover, four members of the Williams majority advanced a new approach to assessing whether a forensic document should be deemed testimonial -- an approach that deviated from the previously established primary purpose test, which had been adopted by our Court. Id. at \_\_\_ (slip op. at 41-42). In Michaels, we concluded that Williams's force as precedent was unclear due to the failure of a majority of the Court to accept the analytic approach of the plurality opinion author, Justice

Alito. Id. at \_\_\_ (slip op. at 43). Accordingly, Williams was viewed as an unreliable guide for determining whether, in respect of forensic evidence, a defendant's confrontation rights were violated. Ibid.

Similarly, in this matter we will apply the pre-Williams Confrontation Clause holdings on forensic evidence, as we did in Michaels.

#### IV.

Defendant argues that his confrontation rights were violated by the forensic evidence introduced through Banaag's testimony. His objection is based on the premise that his rights can only be satisfied by having the opportunity to confront Schiffner, the analyst who conducted the DNA testing of the semen and blood found on the body of the assaulted victim and who was no longer working at the State Lab when testing was required on defendant's buccal swab or when the case came to trial. In that respect, defendant models his argument on Bullcoming. The opportunity to cross-examine Banaag, he contends, is an insufficient substitute for his right to confront the analyst who actually performed the testing on the DNA evidence left by the perpetrator on the body of the victim.

At the outset, we note that the report prepared by Ms. Schiffner was not introduced at trial. In that respect, this case differs initially from Bullcoming and Melendez-Diaz, where

the disputed reports were placed in evidence. In Melendez-Diaz, supra, a confrontation violation was discerned where no witness was offered to support and be cross-examined in respect of the statements contained in the forensic document that was admitted into evidence. 557 U.S. at 308-09, 329, 129 S. Ct. at 2530-31, 2542, 174 L. Ed. 2d at 320, 332-33. In Bullcoming, supra, a forensic report also was admitted into evidence, but through the live testimony of a co-worker who did not observe or review the work set forth in a report that he did not sign or certify. 564 U.S. at \_\_\_, 131 S. Ct. at 2709-10, 180 L. Ed. 2d at 615-16.

That said, although Schiffner's report was not introduced into evidence, Banaag referred to that report repeatedly in her testimony. She also incorporated allele readings contained in the report into her own February 2006 report comparing results for thirteen locations from defendant's buccal swab to results that were in the Schiffner report. Moreover, at one point in her direct examination, Banaag was asked whether she "agreed with" results recorded in Schiffner's report, and she answered in the affirmative. Thus, although Schiffner's report was not introduced into evidence, it was integral to Banaag's testimony, and components of it were incorporated in Banaag's expert report. Therefore, we must address whether the trial court erred in overruling defendant's objection to Banaag's testimony in light of the State's failure to call Schiffner to testify to

her testing results and the report in which she summarized those findings.

In considering this confrontation objection to Banaag's expert testimony, we note first, as we did in Michaels, supra, that neither Bullcoming's holding nor Melendez-Diaz's requires that every analyst involved in a testing process must testify in order to satisfy confrontation rights. \_\_\_ N.J. at \_\_\_ (slip op. at 44). Justice Sotomayor's observations on Melendez-Diaz in Bullcoming, supra, highlighted that point. See 564 U.S. at \_\_\_ n.2, 131 S. Ct. at 2721 n.2, 180 L. Ed. 2d at 627 n.2 (Sotomayor, J., concurring); see also Williams, supra, 567 U.S. at \_\_\_ n.4, 132 S. Ct. at 2273 n.4, 183 L. Ed. 2d at 148 n.4 (Kagan, J., dissenting) (drawing same conclusion). We also noted in Michaels, supra,

that no member of the Court except Justice Scalia joined Section IV of Bullcoming further suggests that all of the other justices harbor some level of disquiet over the necessity and practicality of rigidly interpreting the Confrontation Clause to compel the testimony of all persons who handled or were involved in the forensic testing of a sample.

[\_\_\_ N.J. at \_\_\_ (slip op. at 44).]

Our Michaels analysis led us to conclude further that "neither Melendez-Diaz nor Bullcoming lead to the conclusion that in every case, no matter the type of testing involved or the type of review conducted by the person who does testify, the

primary analyst involved in the original testing must testify to avoid a Confrontation Clause violation.” Ibid. Melendez-Diaz, supra, addressed the circumstance of a self-admitting document. 557 U.S. at 308-09, 129 S. Ct. at 2531, 174 L. Ed. 2d at 320. In Bullcoming, supra, the analyst, dubbed a “surrogate,” merely recited the findings of another analyst and did not engage in any independent assessment of the testing himself. 564 U.S. at \_\_\_, 131 S. Ct. at 2709-10, 180 L. Ed. 2d at 616. In essence, the Bullcoming witness had no connection to the report about which he testified other than being familiar with the laboratory’s testing procedures. Defendant’s reliance on Bullcoming therefore is unwarranted.

Justice Sotomayor’s noteworthy separate opinion in Bullcoming commented on what the Court’s holding did not address and, therefore, was not rejecting. In doing so, she referenced both a supervisor and an otherwise independent reviewer of data:

[T]his is not a case in which the person testifying is a supervisor, reviewer, or someone else with a personal, albeit limited, connection to the scientific test at issue. . . . It would be a different case if, for example, a supervisor who observed an analyst conducting a test testified about the results or a report about such results. We need not address what degree of involvement is sufficient because here [the surrogate who testified] had no involvement whatsoever in the relevant test and report.

[Id. at \_\_\_, 131 S. Ct. at 2722, 180 L. Ed.

2d at 629 (Sotomayor, J., concurring).]

In Michaels, supra, drawing from that comment, we held that a supervisor could perform his supervisory job and be the assigned independent reviewer of lab analysts' work, and then testify about the results of the testing in a report that he authored, signed, and certified. \_\_\_ N.J. \_\_\_ (slip op. at 4). Our holding did not rest on any obligation of the supervisor to have observed the testing, but it did rely on the supervisor's knowledge of the laboratory's testing procedures and protocols generally and his training and knowledge of the particular testing involved. Id. at \_\_\_ (slip op. at 4, 67). We specifically noted that other courts have found no confrontation violation when a supervisor, who has conducted his or her own independent review of the data generated by other analysts, testifies to conclusions he or she has drawn from that independent analysis. Id. at \_\_\_ (slip op. at 63-64) (citing Marshall v. People, 309 P.3d 943, 947-48 (Colo. 2013), cert. denied, \_\_\_ U.S. \_\_\_, \_\_\_ S. Ct. \_\_\_, 189 L. Ed. 2d 212 (2014); Jenkins v. State, 102 So. 3d 1063, 1069 (Miss. 2012), cert. denied, \_\_\_ U.S. \_\_\_, 133 S. Ct. 2856, 186 L. Ed. 2d 914 (2013); Commonwealth v. Yohe, 79 A.3d 520, 540-41 (Pa. 2013), cert. denied, \_\_\_ U.S. \_\_\_, \_\_\_ S. Ct. \_\_\_, 189 L. Ed. 2d 209 (2014)). In sum, the cited examples demonstrate how numerous courts have relied on the fact that the supervisor in question was qualified



and knowledgeable in the scientific testing involved, conducted an independent review of the work done by another, and concluded that it was reliable and correct.

Other cases specifically demonstrate that a supervisor's independent review of an analyst's DNA testing results can qualify the supervisor to testify about a report that incorporates expert conclusions the supervisor has drawn from comparing analysts' results without transgressing a defendant's confrontation rights. See, e.g., Ware v. State, \_\_ So. 3d \_\_ (slip op. at 17) (Ala. 2014), cert. denied, 82 U.S.L.W. 3732 (U.S. June 23, 2014); Commonwealth v. Greineder, 984 N.E.2d 804, 815-18 (Mass.), cert. denied, \_\_ U.S. \_\_, 134 S. Ct. 166, 187 L. Ed. 2d 114 (2013); State v. Lopez, 45 A.3d 1, 13-20 (R.I. 2012); State v. Eagle, 835 N.W.2d 886, 898-99 (S.D. 2013).

While our holding in Michaels, as well as the examples cited therein and above, permits a supervisor to testify based on his or her independent review of raw data and conclusions that he or she reports based on that data, the reasoning applies with comparable force to the analogous circumstance of a co-worker or other independent reviewer. If an independent reviewer, who is not a supervisor but who is trained in the testing and is knowledgeable about the laboratory's processes and protocols, testifies based on his or her independent review of raw data and the conclusions that he or she has drawn from

that data, then it is logical to apply the reasoning from supervisor-testimony holdings to such a case. However, the testimony must be provided by a truly independent and qualified reviewer of the underlying data and report, and the witness may not merely parrot the findings of another. See United States v. Pablo, 696 F.3d 1280, 1290-91 (10th Cir. 2012) (observing evidence of testifying analyst's independent review of DNA recorded data and analytic process followed by co-analyst); Eagle, supra, 835 N.W.2d at 902 (permitting testimony by analyst who participated in some testing and independently reviewed and analyzed results of others). The anti-parroting caveat avoids repetition of the flaw that was present in Bullcoming. The independent reviewer -- just like a supervisor who signs and certifies a report -- must draw conclusions based on his or her own findings, and his or her verification of the data and results must be explained on the record. See, e.g., Lopez, supra, 45 A.3d at 13 (emphasizing that testifying analyst "personally reviewed and independently analyzed all the raw data, formulated the allele table, and then articulated his own final conclusions concerning the DNA profiles and their corresponding matches"); see also State v. Ortiz-Zape, 743 S.E.2d 156, 164-65 (N.C. 2013) (finding no confrontation violation where testifying expert was co-analyst who performed lab's technical review and who reached independent conclusions

based on review of cocaine substance analysis report as well as all raw data and calibration and maintenance documentation from testing, but did not observe testing itself), cert. denied, \_\_\_ U.S. \_\_\_, \_\_\_ S. Ct. \_\_\_, 189 L. Ed. 2d 208 (2014).

Applying that standard, we return to Banaag's testimony.

V.

Banaag testified that she personally reviewed all the raw data and the calls made by Schiffner. As noted earlier, with respect to the raw data, she explained how the machine generates a ladder against which peaks are checked.

[Banaag:] . . . [T]he data is then generated with the peaks that you saw in that one graph. [The analyzer] will generate peaks [] based on the size of the DNA fragments that pass through that window  
. . . .

. . . .

[E]very run that's put on the genetic analysis has an al[l]ele like ladder that runs with it. . . . The ladder is run with every single [genetic analyzer] run that we put on and the ladder is sized and all of the samples that are run through on that run are sized compared to the ladder.

[Defense Attorney:] Who does it?

[Banaag:] When we pull off the data from the instrument we examine the ladder to make sure all the peaks are labeled correctly and in doing that we then look at the data that is generated for each of the samples. That automatically calls all of the peaks in each of the samples as compared to the ladder so we do make sure the ladder is called

correctly and we look at the data that's generated for the samples in comparison to the ladder.

[Defense attorney:] The computer is the one that analyzes everything and spits it out for you?

[Banaag:] Basically it extrapolates the sizes of the ladder and extrapolates the sizes of the base calls for each of the samples so we do get a printout with those peaks on it. The al[1]ele calls are already labeled and that's what we use to analyze our data. Those are the peak heights and peak calls that we use in our reports.

She explained how she satisfied herself that the testing did not disclose contamination of the sample with other DNA. She further explained how she examined in her own review the same peaks that generated the DNA profile in Schiffner's report in order to determine whether she agreed with calls used to develop a DNA profile for the perpetrator's sample. She also detailed how she used thirteen specific calls in evaluating the DNA profiles to determine the mathematical probability of more than one person possessing the specific profile generated from the samples.

In our judgment, Banaag's testimony explained how she used her scientific expertise and knowledge to independently review and analyze the graphic raw data that was the computer-generated product of Schiffner's testing. While she was also asked once whether she "agreed with" Schiffner's results, that one question did not eviscerate the independence of Banaag's review or

undermine the detailed explanation that she provided in her testimony of how she determined that the previously generated profile was accurate enough for her to use when forming her expert opinion that the DNA from defendant's buccal swab matched that left behind by the perpetrator.

It bears noting that it is also our judgment that Banaag's independent interpretation of the machine-generated data converted raw data into unmistakably testimonial material subject to the Confrontation Clause. See Lopez, supra, 45 A.3d at 17-20; United States v. Summers, 666 F.3d 192, 202-03 (4th Cir. 2011), cert. denied, \_\_\_ U.S. \_\_\_, 133 S. Ct. 181, 184 L. Ed. 2d 91 (2012). The subjective analysis involved in creating the DNA profile from the machine-generated graphs marks a clear turning point, at which the raw data becomes testimonial material compiled in the form of an allele table that exhibits the DNA profiles of the tested samples. See Lopez, supra, 45 A.3d at 18-19 & n.33. However, confrontation requirements were satisfied by defendant's ability to cross-examine Banaag on the numerical identifiers in the allele table that she verified and then used in rendering her expert statistical comparison of the likelihood that more than one individual possessed the DNA profile obtained from those samples.

No doubt, the dissent takes a different and dim view of Banaag's ability to satisfy defendant's confrontation rights.

But, as we explained in Michaels, we do not share the view that an independent reviewer cannot verify a machine-generated testing process and results, satisfy herself of the reliability of the results, and reach a conclusion based on the testimonial facts she has made her own through that independent review. Our conclusion in this case applies the same principles as those in Michaels. Hence our point of disagreement with the dissent remains the same. The dissent's view denigrates the validity and legitimacy of independent review in forensic science.

In addition, we note that Banaag addressed in her testimony many of the practical concerns raised by the dissent as reasons that cross-examination of the analyst who performed the test is necessary. See post at \_\_ (slip op. at 5-8). For example, Banaag stated that she was able to ensure that the genetic analyzer was functioning properly by reviewing the allele-like ladder and performance check records. Supra at \_\_ (slip op. at 15). She also noted that, if the sample had been contaminated, there would have been indications of a third person's DNA on the graphs produced by the machine. Supra at \_\_ (slip op. at 13). We reiterate that this is not a case where the testifying analyst merely read from another analyst's report. Rather, Banaag carefully reviewed and analyzed all the underlying machine-generated data and formed her own conclusions about the results to which she testified. In sum, we do not agree that

defendant's confrontation rights are sacrificed because he had the opportunity to confront Banaag on her conclusions and on the facts that she independently reviewed, verified, and relied on in reaching those conclusions.

Accordingly, we hold that defendant's confrontation rights were satisfied by his opportunity to confront Banaag on the DNA evidence used at his trial.

#### VI.

The judgment of the Appellate Division is affirmed.

CHIEF JUSTICE RABNER, JUSTICES PATTERSON and FERNANDEZ-VINA, and JUDGES RODRÍGUEZ and CUFF (both temporarily assigned) join in JUSTICE LaVECCHIA's opinion. JUSTICE ALBIN filed a separate, dissenting opinion.

STATE OF NEW JERSEY,

Plaintiff-Respondent,

v.

REGINALD ROACH, a/k/a  
REGINALD W. HOLMES,

Defendant-Appellant.

JUSTICE ALBIN, dissenting.

In this companion case to State v. Michaels, \_\_\_ N.J. \_\_\_ (2014), the majority again announces that a defendant may be denied the opportunity to confront and cross-examine a state-employed scientist or analyst who conducts a laboratory test that implicates him in a crime. The majority finds that the Confrontation Clause is satisfied if a surrogate expert from the same laboratory -- who has not performed, participated in, or observed the tests -- reviews the test results of the actual analyst and passes them through to the jury. This use of a surrogate witness to bypass the confrontation rights of the accused does not conform with the Sixth Amendment.

For the reasons expressed in my dissent in State v. Michaels, and for the reasons I advance here, I believe that the majority's adoption of the substitute-witness rule in



scientific-testing cases is eviscerating the principles that animate the Confrontation Clause and is in direct conflict with Bullcoming v. New Mexico, 564 U.S. \_\_\_, \_\_\_, 131 S. Ct. 2705, 2713, 180 L. Ed. 2d 610, 619 (2011) (finding that State's reliance on substitute witness for analyst who performed blood analysis violates Sixth Amendment's Confrontation Clause). I therefore respectfully dissent.

I.

Here, Linnea Schiffner, a forensic scientist employed by the New Jersey State Police DNA Laboratory, prepared a DNA profile of a suspect based on a complex series of tests on swabs taken from the victim of an aggravated sexual assault. Jennifer Banaag, another scientist from the same laboratory, prepared a DNA profile based on a sample taken from defendant. At defendant's trial, the State did not call Schiffner as a witness. Instead, the State presented Banaag, who testified that the DNA profile of the rape suspect prepared by Schiffner matched the profile she prepared from defendant's DNA.

Significantly, Banaag did not participate in or observe any of Schiffner's tests. Although Banaag was familiar with the DNA testing procedures in the laboratory, reviewed Schiffner's written notes, and analyzed the DNA sample taken from defendant, she was a stranger to the tests actually performed by Schiffner.

Nevertheless, Banaag read to the jury what Schiffner had done and the results she reached.

At trial, the State argued that defendant must be guilty because Schiffner's DNA profile matched the DNA sample taken from defendant. Although Schiffner's test results were testimonial statements implicating defendant in a crime, defendant was never given the opportunity to cross-examine Schiffner -- to ask her how she performed each individual test; what she observed during those tests; and whether there were any errors, lapses, or malfunctions that may have corrupted the integrity of the results.

The majority gives its blessing to a procedure that does an end run around the Sixth Amendment. The opportunity to cross-examine Banaag about Schiffner's test report no more satisfies the Confrontation Clause than would the opportunity to cross-examine a police witness about an absent eyewitness's identification of an accused. The primary purpose of Schiffner's preparing a DNA profile from swabs taken from the victim was to further a criminal prosecution. That DNA profile was offered to the jury for its truth -- that the rapist is defendant. That testimonial statement could not be offered to the jury without making Schiffner available for cross-examination.

## II.

The Confrontation Clause generally prohibits the use of out-of-court testimonial statements by an absent witness who has not been subject to cross-examination. Crawford v. Washington, 541 U.S. 36, 51, 124 S. Ct. 1354, 1364, 158 L. Ed. 2d 177, 192 (2004). The admission of testimonial hearsay evidence is conditioned on the presence of the witness at trial or on the “unavailability [of the witness] and a prior opportunity for cross-examination” of that witness. Id. at 68, 124 S. Ct. at 1374, 158 L. Ed. 2d at 203. The United States Supreme Court, “relying on Crawford’s rationale, refused to create a ‘forensic evidence’ exception to this rule.” Bullcoming, supra, 564 U.S. at \_\_\_, 131 S. Ct. at 2713, 180 L. Ed. 2d at 620 (citing Melendez-Diaz v. Massachusetts, 557 U.S. 305, 129 S. Ct. 2527, 174 L. Ed. 2d 314 (2009)).

The majority claims to follow “the pre-Williams Confrontation Clause holdings on forensic evidence,” ante at \_\_\_ (slip op. at 25), Bullcoming and Melendez-Diaz, but those cases give no support to the majority.

The United States Supreme Court held in Bullcoming, supra, that a laboratory analyst who did not perform, participate in, or observe a blood test cannot give surrogate testimony for the absent analyst who did the testing and recorded the results without offending the Sixth Amendment’s Confrontation Clause.

564 U.S. at \_\_\_, 131 S. Ct. at 2713, 180 L. Ed. 2d at 619. The Court reached that result because the surrogate expert cannot give firsthand testimony about what the analyst did and observed during a "particular test" or during the "testing process." Id. at \_\_\_, 131 S. Ct. at 2715, 180 L. Ed. 2d at 622. The Court also recognized that cross-examination of a surrogate witness cannot "expose any lapses or lies on" the part of the analyst. Ibid. The Court understood that without the analyst on the stand, the defense is deprived of the ability to ask questions that might reveal whether the analyst failed to comply with protocols, id. at \_\_\_ n.8, 131 S. Ct. at 2715 n.8, 180 L. Ed. 2d at 622 n.8, or that might reveal whether "incompetence" accounts for the analyst's test results, id. at \_\_\_, 131 S. Ct. at 2715, 180 L. Ed. 2d at 622. See also Melendez-Diaz, supra, 557 U.S. at 310-11, 129 S. Ct. at 2532, 174 L. Ed. 2d at 321 (holding that admission of laboratory report identifying substance was testimonial evidence and therefore accused had Sixth Amendment right to confront analyst who prepared it).

Beside the constitutional significance of requiring the analyst to explain the test, there is a very practical reason for demanding testimony from the person who conducted the test: errors in the testing process may not be disclosed absent cross-examination of the analyst. "Confrontation is one means of

assuring accurate forensic analysis.” Melendez-Diaz, supra, 557 U.S. at 318, 129 S. Ct. at 2536, 174 L. Ed. 2d at 326.

Mistakes occur in laboratories conducting DNA tests. In a DNA analysis, technical “[e]rrors as small and unintentional as an analyst accidentally squeezing a pipette into the wrong tube, or forgetting to change gloves after an extraction, can compromise critical evidence.” Erin Murphy, The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence, 95 Cal. L. Rev. 721, 754-55 (2007). In addition, there is always the potential of an analyst making a transcription error. For example, “an audit of a Massachusetts crime lab revealed ‘instances in which laboratory officials entered the same genetic profile under two different ID numbers in the database,’ and in which an analyst reported ‘DNA results in four cases matched the genetic material from old rape kits when they had not.’” Id. at 773 (quoting Jonathan Saltzman, US Audit Found More Problems at Crime Lab, Boston Globe, Feb. 1, 2007, at A1). Justice Alito has noted that forensic DNA testing may be “‘plagued by issues of suboptimal samples, equipment malfunctions and human error.’” Dist. Attorney’s Office for the Third Judicial Dist. v. Osborne, 557 U.S. 52, 81, 129 S. Ct. 2308, 2327, 174 L. Ed. 2d 38, 60 (2009) (Alito, J., concurring) (quoting R. Michaelis et al., A Litigator’s Guide to DNA 341 (2008)).

Those errors may never come to light unless the analyst is on the stand and subject to examination. Justice Kagan in her dissent in Williams described a reported rape case in which an analyst at first testified that DNA evidence implicated the defendant, only to retract her testimony when she realized that she had inadvertently switched the labels on the victim's and defendant's samples. Williams v. Illinois, 567 U.S. \_\_\_, \_\_\_, 132 S. Ct. 2221, 2264, 183 L. Ed. 2d 89, 138 (2012).

It thus becomes clear that "exposing lab analyst incompetency, inexperience, bias, or dishonesty through cross-examination is one of the defendant's few tools for undermining such damning evidence." Lucie Bernheim, Student Scholarship, Getting Back to Our "Roots": Why the Use of Cutting Edge Forensic Technology in the Courtroom Should (and Can) Still Be Constrained by the Plain Language of the Confrontation Clause, 10 Seattle J. Soc. Just. 887, 890-91 (2012). "DNA testing is only as reliable as are the people overseeing each of [the] processes . . . ." Sheldon Krinsky & Tania Simoncelli, Genetic Justice: DNA Data Banks, Criminal Investigations, & Civil Liberties 280 (2011). Cross-examination of the analyst gives defense counsel the tool to expose mistakes due to cross contamination of test samples, an "inaccurate interpretation" of test results, "completely fabricated results," and other forms of human error. Bernheim, supra, at 891.

Allowing a surrogate expert witness to testify for the analyst, however well informed the witness may be about laboratory procedures and about the analyst's notes, is not an adequate substitute for what the Sixth Amendment guarantees -- confrontation. Cross-examination of a surrogate witness is a useless exercise because the surrogate cannot answer what precise tests the actual analyst performed; the surrogate can only repeat what the analyst recorded.

### III.

The State offered the DNA profile prepared by Schiffner as an accurate and truthful scientific analysis. Schiffner's test results were testimonial statements that incriminated defendant and were powerful evidence presented to convict defendant. Schiffner's results were read to the jury by Banaag, the surrogate witness. The majority contends that Banaag, who read to the jury Schiffner's notes and machine-generated data but who did not conduct, participate in, or observe the actual testing, could testify about what Schiffner did and observed. But this is precisely what the Confrontation Clause prohibits. See Bullcoming, supra, 564 U.S. at \_\_\_, 131 S. Ct. at 2715, 180 L. Ed. 2d at 621.

The majority does not dispute that Schiffner's test results were testimonial or that the DNA profile she prepared was

offered for its truth. That the surrogate witness checked Schiffner's work product or came to her own conclusions does not alter the fact that Schiffner's testimonial statements were passed through to the jury without affording defendant his right of confrontation.

The core principle that has animated Confrontation Clause jurisprudence since Crawford is that a testimonial statement may not be presented to the jury unless the witness making that statement is subject to cross-examination at trial or was previously available for cross-examination. Crawford, supra, 541 U.S. at 68, 124 S. Ct. at 1374, 158 L. Ed. 2d at 203.

#### IV.

Cross-examination has been described as one of the greatest devices ever conceived for the exposition of truth and disclosure of error. See California v. Green, 399 U.S. 149, 158, 90 S. Ct. 1930, 1935, 26 L. Ed. 2d 489, 497 (1970). Cross-examination is rendered a useless weapon in the truth-seeking process when the person bearing testimonial statements against the accused does not have to be called as a witness and when that absent witness's damning testimonial statements can be introduced through a surrogate. The Confrontation Clause was intended to interdict the testimony that the majority now allows. The protections afforded by the Confrontation Clause



are lost when the testimony of the person with firsthand knowledge -- whether a scientist or an eyewitness -- is not tested in the crucible of cross-examination.

Because I do not believe that defendant was accorded the rights guaranteed to him by the Sixth Amendment, I respectfully dissent.

SUPREME COURT OF NEW JERSEY

NO. A-129

SEPTEMBER TERM 2011

ON CERTIFICATION TO Appellate Division, Superior Court

STATE OF NEW JERSEY,

Plaintiff-Respondent,

v.

REGINALD ROACH a/k/a REGINALD  
W. HOLMES,

Defendant-Appellant.

DECIDED August 6, 2014

Chief Justice Rabner

PRESIDING

OPINION BY Justice LaVecchia

CONCURRING/DISSENTING OPINIONS BY \_\_\_\_\_

DISSENTING OPINION BY Justice Albin

CHECKLIST	AFFIRM	REVERSE
CHIEF JUSTICE RABNER	X	
JUSTICE LaVECCHIA	X	
JUSTICE ALBIN		X
JUSTICE PATTERSON	X	
JUSTICE FERNANDEZ-VINA	X	
JUDGE RODRÍGUEZ (t/a)	X	
JUDGE CUFF (t/a)	X	
TOTALS	6	1