EVIDENCE — CONFRONTATION CLAUSE — FOURTH CIRCUIT HOLDS THAT "MACHINE-GENERATED" ANALYSIS IS NOT TESTIMONIAL EVIDENCE. — *United States v. Washington*, 498 F.3d 225 (4th Cir. 2007).

In *Crawford v. Washington*,[1] the Supreme Court held that the admission of "testimonial" hearsay[2] violates the Sixth Amendment's Confrontation Clause[3] unless the witness is unavailable and the defendant has had a "prior opportunity" to cross-examine the witness.[4] Although the Supreme Court's *Crawford* decision was once hailed as an important reinvigoration of the procedural guarantees of the Confrontation Clause,[5] its lasting hallmark has been the Court's determination to "leave for another day any effort to spell out a comprehensive definition of 'testimonial.'"[6] The Court's vague language and failure to provide clarification have allowed lower courts to apply *Crawford* as they see fit. Unfortunately, many courts have eroded defendants' constitutional rights by using such discretion to circumvent the Confrontation Clause. One way in which courts have done this is by holding that laboratory reports may be admitted as a basis for expert opinion[7] or as a business record.[8] Recently, in *United States v. Washington*,[9] the Fourth Circuit created a new route around the Confrontation Clause when it held that the defendant's blood test reports were neither hearsay statements nor testimonial assertions because the statements should have been attributed to the machines that generated the reports and not to the technicians who operated them.[10] However, the Fourth Circuit's analysis failed to properly translate the underlying values and principles of the Confrontation Clause for the modern,

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1 541 U.S. 36 (2004).

2 Hearsay is an out-of-court statement "offered into evidence to prove the truth of the matter asserted." FED. R. EVID. 801(c).

3 The clause guarantees the defendant's right "to be confronted with the witnesses against him." U.S. CONST. amend. VI.

4 *Crawford*, 541 U.S. at 68.

5 *See* Richard D. Friedman, *The Confrontation Clause Re-Rooted and Transformed*, *in* CATO SUPREME COURT REVIEW 2003–2004, at 439, 468 (Mark K. Moller ed., 2004).

6 *Crawford*, 541 U.S. at 68.

7 *See* discussion *infra* note 63.

8 *See, e.g.*, Perkins v. State, 897 So. 2d 457, 464 (Ala. Crim. App. 2004). This hearsay exception does not apply if "the source of information or the method or circumstances of preparation indicate lack of trustworthiness." United States v. Blackburn, 992 F.2d 666, 670 n.2 (7th Cir. 1993) (quoting FED. R. EVID. 803(6)). Statements procured for their potential litigation value have been held to be inadmissible for this reason. *Id.* at 670. As the Court pointed out in *Crawford*, the risk of prosecutorial abuse when "government officers [are involved] in the production of testimony with an eye toward trial . . . does not evaporate when testimony happens to fall within some broad, modern hearsay exception." 541 U.S. at 56 n.7.

9 498 F.3d 225 (4th Cir. 2007).

10 *Id.* at 230–32.

technological era in which guilt or innocence can turn on data generated by technicians in processes open to mistake and falsification.

On January 3, 2004, U.S. Park Police Officer Gary Hatch noticed a vehicle traveling unusually slowly on the Baltimore-Washington Parkway.[11] After stopping the vehicle, Officer Hatch handcuffed the driver, Dwonne Washington, and took him to a hospital to get a blood sample.[12] The blood was sent to the Armed Forces Institute of Pathology to be tested for drugs.[13]

At trial, the government called Dr. Barry Levine, director of the toxicology lab, to testify as an expert witness that Washington's blood contained alcohol and the drug PCP.[14] Dr. Levine did not personally conduct or observe any of the tests on Washington's blood.[15] His testimony was based on a final report generated from the results of tests performed by technicians and reviewed by their mid-level supervisor, none of whom testified at trial.[16] Over Washington's objection that Dr. Levine's testimony violated his Sixth Amendment confrontation right and the Federal Rules of Evidence, the magistrate judge found the testimony admissible and the defendant "guilty of unsafe operation of a vehicle . . . and driving under the influence of alcohol or drugs."[17] Washington appealed to the district court, renewing his objections.[18] The district court affirmed, concluding that no violation had occurred because the statements were offered as a basis for Dr. Levine's expert opinion and not for the truth of intoxication.[19]

A divided Fourth Circuit panel affirmed.[20] Writing for the panel, Judge Niemeyer[21] found no constitutional or evidentiary error.[22] The panel held that, to the extent that the computer-generated toxicology data were "statements" at all, they were the statements of the computers and not of the technicians who administered the tests.[23] According to the court, the machine-generated data could not be hearsay

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11 *Id.* at 227.

12 *Id.* at 228. Washington did not initially respond to Officer Hatch's signal to pull over. *Id.* at 227–28. Washington's unresponsive demeanor and the smell of the car interior suggested to the officer that he was under the influence of narcotics. *Id.* at 228.

13 *Id.* at 228. The blood sample was subjected to "headspace gas chromatography" and "immunoassay or chromatography," which produced approximately twenty pages of results. *Id.* (internal quotation marks omitted).

14 *Id.* at 228–29.

15 *Id.*

16 Brief of Appellant at 6, *Washington*, 498 F.3d 225 (No. 05-4883), 2005 WL 3689131.

17 *Id.* at 9.

18 *Id.* at 9–10.

19 *Id.* at 10.

20 *Washington*, 498 F.3d at 232.

21 Judge Niemeyer was joined by Judge Traxler.

22 *See Washington*, 498 F.3d at 232.

23 *Id.* at 230 (internal quotation marks omitted).

under the rules of evidence because "[o]nly a *person* may be a declarant and make a statement."[24]

Alternatively, the majority held that even if the results were hearsay statements, they "were not 'testimonial.'"[25] Citing *Davis v. Washington*[26] for the proposition that only "testimonial" hearsay statements are subject to the Confrontation Clause,[27] the court found that since the reports were "'statements' *of the machines* themselves," they were "not out-of-court statements made by declarants that are subject to the Confrontation Clause."[28] Finally, the court reasoned that the blood analysis reports did "not relat[e] past events," but recorded the "*present condition* of the blood" — which, like the declarant's statement to the 911 operator in *Davis*,[29] was nontestimonial.[30] Stating that any reliability concerns should be addressed through authentication and through the defendant's choice to subpoena the technicians,[31] the majority saw "no value in cross-examining the lab technicians on" the veracity of the machine's results.[32]

In dissent, Judge Michael argued that even though the blood test results were "computer-generated, [they] were produced with the assistance and input of the technicians and must therefore be attributed to the technicians."[33] Citing past precedent, Judge Michael criticized the majority for failing to distinguish between computer-generated statements that were made "without any human assistance or input" and statements that required human action, which can be hearsay.[34] Finally, relying on *Crawford* and *Davis*, he explained that the results were testimonial because the technicians conducting the tests "should have expected that the results would be used for criminal prosecution," and the tests were conducted to prove an "element of the offense."[35]

At the core of the Confrontation Clause is the right of cross-examination, and with it the opportunity for the defendant to face and

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[24] *Id.*

[25] *Id.* at 232.

[26] 126 S. Ct. 2266 (2006).

[27] *Washington*, 498 F.3d at 229 (quoting *Davis*, 126 S. Ct. at 2273).

[28] *Id.* at 230 (internal quotation marks omitted). The court defined a "statement" as "(1) an oral or written assertion or (2) nonverbal conduct of a *person*, if it is intended by the person as an assertion." *Id.* (quoting FED. R. EVID. 801(a)).

[29] The *Davis* Court held that the transcript of a 911 call was not testimonial because it did not describe past events. The caller "was speaking about events as they were actually happening," and the call addressed "an ongoing emergency." 126 S. Ct. at 2276 (emphasis omitted).

[30] *Washington*, 498 F.3d at 232.

[31] *Id.* at 231 & n.3.

[32] *Id.* at 230.

[33] *Id.* at 232–33 (Michael, J., dissenting).

[34] *Id.* at 233.

[35] *Id.* at 234.

impeach his accuser.[36] Although *Crawford* did not adopt a clear-cut definition of testimonial hearsay, the Court provided some guidance by describing possible formulations of the term.[37] The drafters of the Confrontation Clause likely did not envision the pervasive role that science and technology would play in our modern-day justice system. Just as the Court confronted the impact of technology on the Constitution's guarantee of privacy in *Kyllo v. United States*,[38] courts today must confront what limits there are upon the power of technology to shrink the realm of a defendant's guaranteed right to confrontation. As the Court warned in *Davis*, "[r]estricting the Confrontation Clause to the precise forms against which it was originally directed is a recipe for its extinction."[39] Unfortunately, given the role of technology in criminal prosecutions today, the Fourth Circuit's decision and method of analysis erode the purpose of the Confrontation Clause as a protection for criminal defendants and raise serious policy concerns.

By focusing on the machines that generated the reports, the court fashioned a "machine-generated" exception that enabled it to circumvent the constitutional right to confrontation and the evidentiary ban on hearsay in a single stroke. However, "machine-generated information is a legitimate concern of the hearsay doctrine" because the information is an amalgamated "reflection of human design, engineering, programming, calibration, and purposeful input, all aimed at generating machine output."[40] Since the report was in essence a manifestation of the technicians' statements, it is impossible to disaggregate the machine's statements from those of the technicians.[41]

A proper analysis under *Crawford* and *Davis* shows that the statements were in fact testimonial. In one of its formulations, *Crawford* defined "testimonial" statements as "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."[42] The sole purpose of the blood test was to prove an element of the charged crime — that Washington was under the influence of drugs

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[36] *See* Crawford v. Washington, 541 U.S. 36, 50 (2004) (stating that the Confrontation Clause was adopted as a protective measure against overbearing state tactics).

[37] *Id.* at 51–52.

[38] 533 U.S. 27, 34 (2001) (expressing concern that "police technology [could] erode the privacy guaranteed by the Fourth Amendment").

[39] Davis v. Washington, 126 S. Ct. 2266, 2279 n.5 (2006).

[40] CHRISTOPHER B. MUELLER & LAIRD C. KIRKPATRICK, 4 FEDERAL EVIDENCE § 8:13, at 89 (3d ed. 2007). If the initial observations that form the basis for the inputs are faulty, no computer program can generate accurate results.

[41] Furthermore, the government never contested that the test results were hearsay statements made by the technicians. *See Washington*, 498 F.3d at 234 n.1 (Michael, J., dissenting).

[42] *Crawford*, 541 U.S. at 52 (quoting Brief of Amici Curiae the Nat'l Ass'n of Criminal Def. Lawyers et al. in Support of Petitioner at 3, *Crawford* (No. 02-9410), 2003 WL 21754961) (internal quotation marks omitted).

and alcohol — and was prepared in anticipation of criminal prosecution.[43] To counter this argument, the majority reasoned that, like the 911 caller's statements in *Davis*, the blood analysis reports did "not relat[e] *past* events but the current condition of the blood in the machines."[44] The court's comparison, however, is entirely misleading. In *Davis*, the Supreme Court focused on the fact that the main purpose of the 911 call "was to enable police assistance to meet an ongoing emergency" and not to produce testimony.[45] Although the tests reported the *present* condition of the blood, their primary purpose was to prove past ingestion of alcohol and drugs by Washington in furtherance of his criminal prosecution. Because the laboratory report relied on by Dr. Levine was a statement,[46] offered in lieu of testimony by the technician, and prepared solely for prosecution to prove an element of the crime charged, the report bears many of the characteristics of the sort of testimonial, ex parte affidavit that the Confrontation Clause was intended to preclude.[47] When such crime laboratory reports are presented at trial, there is a "unique potential for prosecutorial abuse."[48]

More importantly, the uncross-examined admission of such tests has major implications for the confrontation rights of criminal defendants. Computers play an increasingly important role in today's global economy, daily experience, and the area of forensic science. However, human operators are still needed to perform vital tasks that could ultimately decide the accuracy and reliability of the results. The court's holding would ensure the admission of vital forensic evidence, but would preclude cross-examination that might bear on the accuracy or reliability thereof. Such an outcome could lead to extremely prejudicial results as "juries may discard common sense when confronted with computer evidence, and instead accept as proven fact whatever the computer proposes as the calculated result or outcome."[49] Per se standards have an especially significant effect on the jury in drunk driving cases as the defendant's intoxication level can comprise the sole evidence of the offense.[50] If the only evidence offered is "machine

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[43] Not only was the sample sent to "a branch of the Department of Defense [that] performs alcohol and drug testing . . . for military and civilian court cases," *Washington*, 498 F.3d at 228, but it was also "accompanied by a 'Police Officer's Report'" that clearly identified the defendant, the DUI charge, and the arrest date, *id.* at 234 (Michael, J., dissenting).

[44] *Id.* at 232 (majority opinion) (emphasis added).

[45] Davis v. Washington, 126 S. Ct. 2266, 2277 (2006).

[46] *Washington*, 498 F.3d at 233 (Michael, J., dissenting).

[47] *See Crawford*, 541 U.S. at 50.

[48] *Id.* at 56 n.7.

[49] John Selbak, Comment, *Digital Litigation: The Prejudicial Effects of Computer-Generated Animation in the Courtroom*, 9 HIGH TECH. L.J. 337, 339 (1994).

[50] *See* Edward J. Imwinkelreid, *The Use of Proper Procedure in Conducting Scientific Tests: Healing the Achilles Heel of Forensic Science*, 43 CRIM. L. BULL. 371, 372 (2007); *see also* People v. Rogers, 780 N.Y.S.2d 393, 397 (App. Div. 2004) (stating that the defendant's right to cross-

generated," under the court's reasoning, the Confrontation Clause provides no protection. However, that protection is vitally necessary because the validity of reports and opinions of experts such as Dr. Levine is dependent upon the tests performed by the technicians who handled the evidence and on the reliability of their reports. Although the final reports may indeed be "machine generated," numerous opportunities exist for human error, both intentional and unintentional.[51] Across the country, examples of negligence and fraud in crime laboratories abound.[52] The court's holding that machine-generated data are beyond the confines of hearsay law and the Confrontation Clause could further encourage such behavior to gain easy convictions.[53]

By distinguishing the source of the alleged "statements" as "a common scientific and technological process" and by deemphasizing the value of cross-examination of the technicians, the majority implicitly asserted that lab reports are objective, reliable findings, and should be admissible without confrontation.[54] However, sometimes scientific tests that were once seen as "objective" and "reliable" have later been discredited.[55] Moreover, even if the court's opinion about the tests' reliability is correct, *Crawford* expressly rejected such legal reasoning.[56] Although the procedural confrontation right does not guarantee reli-

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examine the technician who prepared the blood test report was especially important in a rape prosecution because the "victim's intoxication level directly related to her capability to consent").

[51] In order to understand the implications of accepting the machine-generated data of gas chromatography at face value, it is important to understand the intricacy of the testing process. After receiving the blood sample, the chemist must calibrate the machinery and transfer the sample to a testing vial. Brief of Amicus Curiae the Nat'l Coll. for DUI Def. in Support of Petitioner at 17–18, O'Maley v. New Hampshire, No. 07-7577 (U.S. Dec. 10, 2007), 2007 WL 4377584. During the actual computer testing the "analyst can control the temperature, the injection time, equilibration time, time and speed of shaking the vial, temperature of the oven and of the transfer line, volume, pressure, and time of the sample injection," all of which affect accuracy. *Id.* at 19.

[52] For example, the Department of Public Safety closed the Houston Police Department's toxicology lab after the disclosure of "widespread incompetence, carelessness, and fraud in laboratories across [Texas]." Pamela R. Metzger, *Cheating the Constitution*, 59 VAND. L. REV. 475, 477 (2006); *see also id.* at 495 (describing recent scandals in Baltimore, Phoenix, and Florida).

[53] *Cf. id.* at 499–500 (describing West Virginia State Trooper Fred Zain's involvement in the ongoing, methodical, and calculated falsification of evidence in numerous criminal cases).

[54] *Washington*, 498 F.3d at 230. However, "[d]efendants have a right to insist that prosecutorial testimony be presented through the adversarial process, regardless of whether judges surmise that cross-examination would likely bear fruit." Petition for Writ of Certiorari at 23, Melendez-Diaz v. Massachusetts, No. 07-591 (U.S. Oct. 26, 2007), 2007 WL 3252033.

[55] *See* John Solomon, *FBI Forensic Test Full of Holes*, WASH. POST, Nov. 18, 2007, at A1. In fact, another test, gas liquid chromatography, has been specifically criticized as overly "prone to operator error in both test performance and data interpretation." Metzger, *supra* note 52, at 493.

[56] Crawford v. Washington, 541 U.S. 36, 62 (2004) ("Dispensing with confrontation because testimony is obviously reliable is akin to dispensing with jury trial because a defendant is obviously guilty.").

able evidence, it demands "that reliability be assessed in a particular manner: by testing in the crucible of cross-examination."[57]

The *Washington* court attempted to address these concerns by claiming that reliability issues should be "addressed through the process of authentication," rather than a "Confrontation Clause analysis."[58] "[I]f the defendant wished to question the manner in which the technicians set up the machines, he would be entitled to subpoena into court and cross-examine the technicians."[59] Accepting the court's argument would change the confrontation right into a right of compulsory process. The Constitution, however, does not require that a defendant exercise his right to compulsory process in order to confront the statement of an out-of-court declarant.[60] As one commentator has observed, "the right to be 'confronted with witnesses' includes the Framers' expectation that the prosecution must present the accusations in open court, rather than require the defendant to call the accusers so as to be able to cross-examine them."[61] The Supreme Court has made clear that while the compulsory process right's "availability is dependent entirely upon the defendant's initiative[, m]ost other Sixth Amendment rights arise automatically on the initiation of the adversary process and no action by the defendant is necessary to make them active in his or her case."[62] The right to confrontation and the right to compulsory process are two separate provisions whose distinct purposes are lost under the Fourth Circuit's approach.

Furthermore, it is doubtful that the drafters of the Confrontation Clause anticipated the expansion of technology to the point where trial outcomes turn on distant experts instead of eyewitness testimony.[63]

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[57] *Id.* at 61.

[58] *Washington*, 498 F.3d at 231.

[59] *Id.* at 231 n.3.

[60] *See* State v. Birchfield, 157 P.3d 216, 220 (Or. 2007). There are many practical burdens that would be placed on defendants, especially indigent defendants, if they were required to subpoena criminalists: "[T]he defendant is required to learn the criminalist's identity and location, issue the subpoena, and then take additional time-consuming steps to ensure service and attendance at trial. Moreover, the criminalist, in all likelihood, could be an adverse witness with no incentive to cooperate . . . ." *Id.* at 219. Finally, reliance on authentication puts the question to the judge instead of the jury.

[61] Robert P. Mosteller, *Testing the Testimonial Concept and Exceptions to Confrontation: "A Little Child Shall Lead Them*," 82 IND. L.J. 917, 993 (2007).

[62] Taylor v. Illinois, 484 U.S. 400, 410 (1988).

[63] Because Federal Rule of Evidence 703 allows experts to base their opinions on facts that are inadmissible in evidence, if they are of a type reasonably relied upon by experts in the field to form opinions on the subject matter, many courts have side-stepped the assertion that laboratory reports are testimonial hearsay by claiming to admit them for the limited purpose of evaluating the merits of the expert opinion and not for the truth of the matter asserted. *See, e.g.*, Engebretsen v. Fairchild Aircraft Corp., 21 F.3d 721, 728–29 (6th Cir. 1994). However, "one cannot accept an opinion as true without implicitly accepting the facts upon which the expert based that opinion." Paul R. Rice, Essay, *Inadmissible Evidence as a Basis for Expert Opinion Testimony: A Re-*

Requiring the government to call the technicians who actually performed the test would help control "expert shopping" and the cost and reliability problems associated with a "battle of the experts." Furthermore, because human error in the handling, collection, and analysis of evidence is one of the most common causes of erroneous laboratory reports,[64] and because the falsification of evidence by technicians is a growing concern, the right to cross-examine experts cannot compensate for the inability to confront individuals who collect, handle, and test the relevant forensic evidence.

The Fourth Circuit's reasoning directs the government toward an easy path of avoiding the Confrontation Clause and encourages it to conduct as much testing as possible through the use of computers and machines, even at the expense of reliability. The more the government can replace human-written reports with direct computer-generated printouts, the less technicians will have to appear in court and the less unsophisticated defendants (and counsel) will be allowed to challenge such evidence.[65] The emergence of new technological innovations allows elements of crimes that used to require live testimony to be proved without such testimony,[66] and the prominence of such innovations in investigatory procedures will only increase over time.[67] Adopting the majority's approach would leave defendants' confrontation rights at the mercy of advancing technology. In *Crawford*, the Supreme Court pronounced that it would "leave for another day any effort to spell out a comprehensive definition of 'testimonial.'"[68] That day is long overdue.

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sponse to Professor Carlson, 40 VAND. L. REV. 583, 585 (1987). The constitutional right protected by the Confrontation Clause should not be completely disposed of when an expert witness is cross-examined. Otherwise, prosecutors could always make an end run around *Crawford* by calling a token expert witness instead of the technicians who actually conducted the testing.

64 *See generally* Edward J. Imwinkelried, *The Debate in the DNA Cases Over the Foundation for the Admission of Scientific Evidence: The Importance of Human Error as a Cause of Forensic Misanalysis*, 69 WASH. U. L.Q. 19 (1991).

65 *Cf.* PAUL C. GIANNELLI & EDWARD J. IMWINKELRIED, 2 SCIENTIFIC EVIDENCE § 22.01, at 361–65 (4th ed. 2007).

66 For example, innovations like "Brain Fingerprinting," which uses brain monitoring technology to determine if "a suspect's brain . . . is familiar with a particular place, time, or action," Erich Taylor, Note, *A New Wave of Police Interrogation? "Brain Fingerprinting," The Constitutional Privilege Against Self-Incrimination, and Hearsay Jurisprudence*, 2006 U. ILL. J.L. TECH. & POL'Y 287, 287, could eventually allow the government to avoid the Confrontation Clause even in situations similar to what gave birth to the clause — Sir Walter Raleigh's implication by the out-of-court statement of his alleged accomplice.

67 *See, e.g.*, Erin Murphy, *The New Forensics: Criminal Justice, False Certainty, and the Second Generation of Scientific Evidence*, 95 CAL. L. REV. 721, 723 (2007) (stating that "a new generation of forensic sciences capable of uncovering and inculpating criminal offenders . . . will surely stake a central and indispensable role in the future administration of criminal justice").

68 Crawford v. Washington, 541 U.S. 36, 65 (2004).