

IN THE SUPREME COURT OF NORTH CAROLINA

No. 293PA23-2

Filed 31 January 2025

STATE OF NORTH CAROLINA

v.

ANDRE EUGENE LESTER

On discretionary review pursuant to N.C.G.S. § 7A-31 of a unanimous decision of the Court of Appeals, 291 N.C. App. 480 (2023), vacating a judgment entered on 21 July 2022 by Judge Thomas H. Lock in Superior Court, Wake County. Heard in the Supreme Court on 31 October 2024.

Jeff Jackson, Attorney General, by Heidi M. Williams, Special Deputy Attorney General, and Tiffany Lucas, Deputy General Counsel, for the State-appellant.

Mark Hayes for defendant-appellee.

EARLS, Justice.

The Sixth Amendment to the United States Constitution commands that “[i]n all criminal prosecutions, the accused shall enjoy the right . . . to be confronted with the witnesses against him.” U.S. Const. amend. VI. This “bedrock procedural guarantee”—commonly called the Confrontation Clause—dates to the Roman era and was inscribed in English common law. *Crawford v. Washington*, 541 U.S. 36, 42–43 (2004). But “[m]odern times and technologies” raise new questions about “this old right.” *State v. Pabon*, 380 N.C. 241, 253 (2022). This case presents one such question.

Andre Lester was charged and convicted of multiple sex offenses with a minor.

At trial, the State offered Verizon phone records to link Mr. Lester to the crimes. Exhibit #2 showed the time, date, and connecting number for every call made to or from the phone allegedly belonging to Mr. Lester. Exhibit #3 featured a subset of that data—to be exact, all communications between Mr. Lester’s purported phone and the victim’s phone. According to Mr. Lester—and as held by the Court of Appeals—the State violated both the Confrontation Clause and hearsay rules by admitting these exhibits without allowing him to “cross-examine [their] source and assertions.” *State v. Lester*, 291 N.C. App. 480, 484 (2023).

That position, however, faces a threshold problem. The Confrontation Clause applies only to testimonial “statements made by people not in the courtroom”—that is, to testimonial hearsay. *Smith v. Arizona*, 602 U.S. 779, 784 (2024). But because “machine-generated raw data, if truly machine-generated, are not statements by a person, they are neither hearsay nor testimonial.” *State v. Ortiz-Zape*, 367 N.C. 1, 10 (2013) (cleaned up). So if a computer, rather than a human, produced the contents of Exhibits #2 and #3, admitting that evidence did not violate the Clause or the hearsay rules. Because the Court of Appeals improperly analyzed the exhibits’ admissibility, we reverse its decision and remand for consideration of Mr. Lester’s remaining issues.

I. Background

A. The Facts

In the summer of 2019, thirteen-year-old Riley (pseudonym) lived in Cary, North Carolina, with her father and fifteen-year-old brother, John. Because their

father worked during the day, Riley and John often found themselves home alone. When this happened, John often invited his friends over for “drugs and sex.” To use Riley’s words, the apartment functioned much like a “crack house.”

That same summer, Riley met John’s thirty-two-year-old friend nicknamed “Ray-Ray.” One day, Riley bumped into Ray-Ray while walking her dog near her family’s apartment. The two made “small talk,” and Ray-Ray revealed that he was planning to meet John. Riley volunteered to let him wait in the apartment out of the heat.

Once inside, Riley and Ray-Ray talked for a while before she offered to read his tarot cards. The first card she chose had a naked woman on it, and the conversation turned to sex. Riley then showed Ray-Ray her sex toys. Eventually, she asked Ray-Ray if he wanted to have sex. He agreed and followed Riley into her brother’s room.

They twice engaged in oral sex and also had vaginal intercourse. Riley recalls this as a painful experience during which she screamed and sometimes felt like she was choking. After the two dressed, Ray-Ray asked Riley if they were “dating now,” to which she offered a noncommittal answer. Ray-Ray kissed her and left the apartment.

John came home “a few minutes after” the encounter, and Riley told him what happened. She did not disclose the event to any adults. Though Riley never saw Ray-Ray again, either she or her brother gave him her phone number. Riley and Ray-Ray

kept in touch through texts and maybe “one or two phone calls.”

Later that summer, Riley’s father took her to the Duke Gender Clinic to receive care for her gender dysphoria. While meeting with a clinic social worker, Riley recounted a sexual experience with a man who was around thirty years old. The social worker, as a mandatory reporter, relayed the information to Riley’s father and law enforcement.

B. The Investigation

In September 2019, Riley’s case made its way to Cary Police Department (CPD) Detective Armando Bake. He began his investigation by speaking with Riley’s father and brother. John identified Ray-Ray as the perpetrator and informed Detective Bake of Ray-Ray’s current whereabouts. Based on John’s statements, another detective named Mr. Lester as Ray-Ray and supplied Detective Bake with his birth date and phone number. Detective Bake then spoke with Riley. She confirmed that she had texted Ray-Ray and gave the officer his cell phone number.

Armed with that information, Detective Bake got a court order instructing Verizon to disclose the “call detail records” of Ray-Ray’s phone number. The company sent Detective Bake a secure link to those records, which he forwarded to Detective John Schneider of CPD’s Cyber Intelligence Unit.

At trial, Detective Schneider explained that “call detail records are basically just what the name implies”—that is, “detailed records for any sort of call or communications made by a device or phone number that are provided by the cellular

provider.” He testified too that the records turned over by Verizon showed “every single phone call throughout a certain period of time for a certain phone number.” In this case, he continued, the phone number was (984) 328-XXXX and the period covered was from May 2019 to July 2019. The records also contained other identifying data, including the time, date, duration, direction, and contacted phone number for all communications to and from Ray-Ray’s phone.

After receiving the link to the Verizon cell phone records, Detective Schneider processed them using software called PenLink, which “collect[s] and analyze[s] the data [] you put into it.” To use the program, the detective uploaded “the original files” without “add[ing] or delet[ing] anything.” PenLink, in turn, “helps pare down a lot of the extra information that’s contained in the call detail records and [] makes it into a more readable and easily accessible format.” The program, in essence, allows users to filter a larger data set to “plot particular times, dates, direction for the phones, certainly phone numbers.” Detective Schneider narrowed the data set “to just [] the communications between” Ray-Ray’s and Riley’s numbers. PenLink then created a spreadsheet showing about “100 communications” between the two over the captured period. Detective Schneider gave the call detail records and PenLink spreadsheet to Detective Bake.

C. The Trial

Based on this investigation, the State charged Mr. Lester with statutory rape of a child fifteen years or younger, statutory sexual offense with a child fifteen years

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or younger, and indecent liberties with a child. A Wake County grand jury indicted him on 28 January 2020. Mr. Lester's trial started on 18 July 2022 in Superior Court, Wake County, before the Honorable Thomas H. Lock. The State called Riley as its first witness. It also called Detectives Bake and Schneider to testify about the investigation.

Through the detectives' testimony, the State introduced two exhibits based on the call detail records. Exhibit #2 contained the full set of records provided by Verizon, listing the time, date, and connecting phone number for all calls to and from Ray-Ray's phone between May and July 2019. Those records were paired with a cover letter from Verizon's records custodian, which stated that the digital files provided to CPD were "true and accurate copies of the records created from the information maintained by Verizon in the actual course of business." The letter also explained that "[i]t is Verizon's ordinary practice to maintain such records, and that said records were made contemporaneously with the transaction and events stated therein, or within a reasonable time thereafter." Exhibit #3 was the PenLink spreadsheet created by Detective Schneider and showing about "100 communications" between Ray-Ray's and Riley's phone numbers.

Mr. Lester objected to both exhibits, arguing that they were hearsay, were not properly authenticated, and violated various constitutional provisions, including the Confrontation Clause. The State argued that the exhibits were business records admissible under Rule of Evidence 803(6) as an exception to the hearsay rule. The

trial court disagreed. In its view, the call records did not satisfy Rule 803(6) because the State did not offer an affidavit or other evidence laying the proper foundation for the documents as business records. Nonetheless, the trial court admitted the exhibits under Rule 803(24)—the catch-all hearsay exception. According to the trial court, the records “had equivalent circumstantial guarantees of trustworthiness” and met the other criteria for admission.

On 20 July 2022, the jury convicted Mr. Lester on all counts. He timely appealed.

D. The Appeal

The Court of Appeals unanimously reversed Mr. Lester’s convictions and ordered a new trial. In its view, the trial court violated the Confrontation Clause and prejudiced Mr. Lester by admitting Exhibits #2 and #3. *Lester*, 291 N.C. App. at 489–90.

The court used a three-pronged test to analyze the Confrontation Clause claim, asking “whether the evidence admitted was testimonial in nature,” “whether the trial court properly ruled the declarant was unavailable,” and “whether defendant had an opportunity to cross-examine the declarant.” *Id.* at 485. After reciting those factors, the court block-quoted the trial court’s discussion of the residual hearsay exception. *See id.* Based on that excerpt, the Court of Appeals concluded that the trial court “answered the first and second factors . . . in the affirmative and the third factor in the negative and these statements are testimonial.” *Id.* It also opined that the

“primary purpose of the court-ordered production of and preparation of the data records retained and provided by Verizon was to prepare direct testimonial evidence for Defendant’s trial.” *Id.* at 489. Reasoning that “*Crawford* forbids testimonial evidence not subject to confrontation,” the court concluded that Exhibits #2 and #3 “should have been excluded” under the Confrontation Clause. *Id.* at 486.

The Court of Appeals then examined whether Exhibits #2 and #3 were hearsay admissible under Rules 803(6) and 803(24). *Id.* at 486–89. The court again sided with Mr. Lester, concluding that neither piece of evidence was properly authenticated as a business record because the State failed to submit a “sworn, under seal[, or] notarized” affidavit. *Id.* at 486. As for Rule 803(24)’s catch-all exception, the court opined that the exhibits “were offered and admitted for consideration by the jury as substantive and testimonial evidence.” *Id.* at 489. Because the records provided “evidence of a material fact” and Mr. Lester was not “given the prior opportunity or at trial to challenge or cross-examine officials from Verizon, who had purportedly accumulated this evidence,” the court concluded that “their admission as such violated [Mr. Lester’s] rights under the Confrontation Clause.” *Id.* at 489.

That error was prejudicial, the Court of Appeals explained. Because no “physical or direct evidence was admitted to support the State’s case,” the “jury was left to adjudicate [Mr. Lester’s] guilt solely upon Riley’s credibility.” *Id.* For that reason, the “purported cellular phone contacts between [Mr. Lester] and Riley after the alleged assaults” were critical because they “gave corroboration and credibility to

her testimony.” *Id.* In the court’s view, the State could not show that the “jury would have found Riley’s allegations as credible to reach its verdicts” absent “the cellular phone data hearsay or without other physical or direct evidence.” *Id.*

Reasoning that admitting Exhibits #2 and #3 was prejudicial error, the Court of Appeals reversed and vacated Mr. Lester’s convictions and ordered a new trial. *Id.* at 490. Although Mr. Lester raised other issues on appeal, the court declined to address them given its Confrontation Clause ruling. The State petitioned this Court for discretionary review, which we allowed on 26 June 2024.

II. The Confrontation Clause and the Hearsay Rules

The State argues that the Court of Appeals misapplied the Confrontation Clause analysis. In its view, Exhibit #2 was call data automatically logged by Verizon’s computer systems. And Exhibit #3, it claims, was simply a filtered version of the same data. Since both exhibits were computer-generated, the State now insists that they are not testimonial hearsay covered by the Clause. To address this argument, we first examine the scope and purpose of the hearsay rule and Confrontation Clause.

Hearsay, at its core, refers to “out-of-court statements offered to prove the truth of the matter asserted.” *Smith*, 602 U.S. at 785 (cleaned up). This type of evidence “lack[s] the conventional indicia of reliability” that attend courtroom testimony. *Chambers v. Mississippi*, 410 U.S. 284, 298 (1973). For that reason, hearsay “is not admissible except as provided by statute or by the North Carolina

Rules of Evidence.” *State v. Wilson*, 322 N.C. 117, 131–32 (1988); N.C.G.S. § 8C-1, Rule 802 (2023).

The statutory definition of hearsay reflects these concerns. Hearsay means “a statement, other than one made by the declarant while testifying at the trial or hearing, offered in evidence to prove the truth of the matter asserted.” N.C.G.S. § 8C-1, Rule 801(c) (2023). Two facets of that provision stand out. First, the rule applies to a “statement,” meaning “(1) an oral or written assertion or (2) nonverbal conduct of a person, if it is intended by him as an assertion.” *Id.*, Rule 801(a) (2023). The “key to the definition” is the declarant’s intent: “nothing is an assertion unless intended to be one” by its maker. *Id.*, Rule 801 cmt. (2023). Second, hearsay must originate from a “declarant”—that is, the “*person* who makes a statement.” *Id.*, Rule 801(b) (2023) (emphasis added). The “statement[s]” that count as hearsay—whether spoken, written, or done—mark the intended “assertion[s]” of a “person.” *Id.*, Rule 801(a), (b), (c). By its nature, then, the hearsay rule is tied to a human source.

This emphasis on people aligns with the rule’s logic. Out-of-court statements, if offered for their truth, are unreliable precisely because they are man-made and “freighted with all the dangers of error in the perception, memory, narration, and veracity of the asserter.” Edmund M. Morgan, *The Hearsay Rule*, 12 Wash. L. Rev. & St. B.J. 1, 6 (1937). The safeguards of the courtroom—an oath, cross-examination, and observation of demeanor—are designed to offset those distinctly human shortcomings. See 5 John Henry Wigmore, *Wigmore on Evidence: Evidence in Trials*

at *Common Law* § 1362, at 3 (James J. Chadbourn rev., Little, Brown & Co. 1974) (“The theory of the hearsay rule is that the many possible deficiencies, suppressions, sources of error and untrustworthiness, which lie underneath the bare untested assertion of a witness, may be best brought to light and exposed by the test of cross-examination.”).

The Confrontation Clause targets a subset of hearsay. *See Davis v. Washington*, 547 U.S. 813, 821–22 (2006). By “speaking about ‘witnesses’—or ‘those who bear testimony’—the Clause confines itself to ‘testimonial statements.’ ” *Smith*, 602 U.S. at 784 (quoting *Davis*, 547 U.S. at 823, 826). Here too, the focus is on human assertions. A “witness,” in constitutional terms, is a person who makes a “solemn declaration or affirmation” to “establish or prove some fact.” *Davis*, 547 U.S. at 826 (quoting *Crawford*, 541 U.S. at 51). The “testimonial character of the statement” is what makes its declarant a “witness” under the Clause. *Id.* at 821. Non-testimonial hearsay, while covered by ordinary evidentiary rules, does not trigger the Clause’s protections. *See id.*; *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 309–10 (2009).

By focusing on testimonial hearsay, the Confrontation Clause stays true to its text, history, and purpose. The Framers drafted the Clause to address a specific abuse: the use of “*ex parte* examinations” as evidence against the accused. *Crawford*, 541 U.S. at 50. These statements, often made behind closed doors and under shadowy conditions, undermined the fairness of criminal trials. *See id.* at 43–49. They also “flouted the deeply rooted common-law tradition of live testimony in court subject to

adversarial testing.” *Melendez-Diaz*, 557 U.S. at 315 (cleaned up).

The Clause was the Framers’ answer. Its “ultimate goal,” *Crawford* explained, was to ensure reliability “by testing [evidence] in the crucible of cross-examination.” 541 U.S. at 61. Today the Confrontation Clause remains true to those origins, applying to statements that act as “*ex parte* in-court testimony or its functional equivalent” that “declarants would reasonably expect to be used prosecutorially.” *Id.* at 51 (cleaned up). If those assertions were made by people not in the courtroom, the “Sixth Amendment demands what the common law required: unavailability and a prior opportunity for cross-examination.” *Michigan v. Bryant*, 562 U.S. 344, 354 (2011) (quoting *Crawford*, 541 U.S. at 68).

To separate testimonial hearsay from its non-testimonial counterpart, courts use the “primary purpose test.” *Ohio v. Clark*, 576 U.S. 237, 244 (2015). This inquiry looks at “all the relevant circumstances” surrounding how the statement was made and how it relates to future criminal cases. *Smith*, 602 U.S. at 800–01 (cleaned up). A statement is testimonial if its “primary purpose” is to “establish or prove past events potentially relevant to later criminal prosecution”—in other words, to capture evidence for use at trial. *Davis*, 547 U.S. at 822.

In line with the Clause’s historic roots, courts give special attention to how closely a statement resembles witness testimony in function or form. *See Crawford*, 541 U.S. at 51–52. If an out-of-court statement serves as a proxy for live testimony—if it mimics a witness recounting events from the stand—it is often testimonial. *See*

Melendez-Diaz, 557 U.S. at 310–11 (emphasizing that laboratory analysts’ certificates contained the “precise testimony the analysts would be expected to provide if called at trial” and were thus “functionally identical to live, in-court testimony”). A witness’s job, after all, is “telling a story about the past” to “nail down the truth about [earlier] criminal events.” *Davis*, 547 U.S. at 830–31. When an out-of-court statement does the same thing, the Confrontation Clause promises the defendant a chance to confront its maker. *See id.*

III. Evidentiary Limits on Computer-Generated Data

We next consider how the Confrontation Clause and hearsay rules apply to a unique type of evidence: computer-generated data. On this score, we are in good company. Courts across the nation—state and federal alike—have tackled the same questions. From their decisions a shared understanding emerges.

In general terms, computer-generated data “represent the self-generated record of a computer’s operations resulting from [its] programming.” *State v. Kandutsch*, 799 N.W.2d 865, 878 (Wisc. 2011). This evidence is unique because it is created entirely by a machine, without any help from humans. *See United States v. Washington*, 498 F.3d 225, 230 (4th Cir. 2007). When triggered, the computer mechanically processes inputs, extracts information, and generates results. The response is encoded in the machine’s programming—it is the product of 1s and 0s rather than independent choice. *See Kandutsch*, 799 N.W.2d at 878–80.

Examples include a seismograph monitoring geologic activity or a flight

recorder capturing in-flight data. *See State v. Armstead*, 432 So. 2d 837, 840 (La. 1983). For those machines, the “real work is done by the computer program itself,” without human judgment or discretion. *See United States v. Lizarraga-Tirado*, 789 F.3d 1107, 1110 (9th Cir. 2015). That process happens in real time too. The machine captures the present—unfiltered and unmediated—as it unfolds. A seismograph, for example, does not narrate an earthquake after the fact—it records the tremors as they happen, without a human telling it what to say. A flight recorder does the same thing. From take-off to landing, it logs location data moment by moment as the plane moves.

The data created by these computers are a neutral, “self-generated record” of information produced via the machine’s “electrical and mechanical operations.” *Armstead*, 432 So. 2d at 839–40. In turn, a printout of that information is simply a physical representation of what the machine has already done. *Id.*; *see also People v. Holowko*, 486 N.E.2d 877, 879 (Ill. 1985) (explaining that a printout of data is “merely the tangible result of the computer’s internal operations”). Because computer-generated data are the fruit of self-sufficient and automated processes, they are the machine’s work alone. *See Washington*, 498 F.3d at 230. It is this independence—this freedom from human influence or interpretation—that makes computer-generated data distinct.

That freedom from human input separates this type of evidence from the testimonial hearsay embraced by the Confrontation Clause. Machines are not

“person[s]” and so do not rank as hearsay “declarants.” See N.C.G.S. § 8C-1, Rule 801(b). Their raw output—much like a photograph—is the product of “mechanical procedures” rather than an intentional assertion of fact. See *State v. Patterson*, 332 N.C. 409, 417 (1992). For similar reasons, a computer does not create data for the primary purpose of building evidence for criminal prosecution. Machines, by their nature, do not act with intent at all.¹ *Kandutsch*, 799 N.W.2d at 879. They simply log what they are programmed to capture, following pre-set instructions no matter how their output might be used. Whether the results are destined for a courtroom or a high school science fair, a properly functioning machine will produce the same data. Cf. *Washington*, 498 F.3d at 232 (explaining that a chromatograph’s output did not “look forward to later criminal prosecution” because “the machine could tell no difference between blood analyzed for health care purposes and blood analyzed for law enforcement purposes” (cleaned up)).²

In other ways too, raw computer data lack the hallmarks of witness testimony. A witness gives a “narrative of past events [] delivered at some remove in time” from what their statements describe. *Davis*, 547 U.S. at 832. The witness’s testimony, in

¹ As scholars have observed, the rapid march of technology—artificial intelligence included—might one day cast new light on this principle. See, e.g., Ian Maddox, *Artificial Intelligence in the Courtroom: Forensic Machines, Expert Witnesses, and the Confrontation Clause*, 15 Case W. Rsrv. J.L. Tech. & Internet 416 (2024). This case does not present such questions, and we do not address them.

² Of course, a machine can be used to create evidence for trial. Crime labs, for example, rely on computerized equipment to analyze forensic evidence for prosecution. But there is a difference between raw computer-generated data and human interpretations drawn from them—a point we address in more detail below.

other words, “tell[s] a story about the past” to chronicle “how potentially criminal past events began and progressed.” *Id.* at 830–31. Computer-generated data, by contrast, capture the here and now. Much like a 911 caller describing a present emergency when seeking police help, a machine’s raw output records “events *as they were actually happening*, rather than describing past events.” *See Bryant*, 562 U.S. at 356–57 (cleaned up) (quoting *Davis*, 547 U.S. at 827). This is a far cry from testimonial statements that recount the past “to nail down the truth about [prior] criminal events.” *Davis*, 547 U.S. at 830; *see also Washington*, 498 F.3d at 232 (reasoning that a chromatograph’s raw data were not testimonial because they captured “the current condition of the blood in the machines” and “did not involve the relation of a past fact of history as would be done by a witness”).

Finally, machine-generated data are a feeble substitute for live, in-court testimony. *See United States v. Lamons*, 532 F.3d 1251, 1264–65 (11th Cir. 2008). A human witness can take the stand, recount her observations, and have her reliability tested through cross-examination. *See id.* A machine cannot. It has no “mind of its own,” no memory to probe, no truthfulness to impugn, and no agenda to uncover. *Kandutsch*, 799 N.W.2d at 879 (explaining that data created by a “computerized or mechanical process cannot lie,” “forget,” or “misunderstand”); *Armstead*, 432 So. 2d at 840 (noting that a computer’s raw output raises “no possibility of a conscious misrepresentation”). A computer cannot sit in the witness chair to explain how it crunched the numbers. *United States v. Moon*, 512 F.3d 359, 362 (7th Cir. 2008)

("[H]ow could one cross-examine a gas chromatograph?"). And haling "spectrographs, ovens, and centrifuges in[to] court would serve no one's interests." *Id.* The very flaws that cross-examination is designed to reveal—ambiguity, dishonesty, or bias—simply do not apply to machines. *See Lamons*, 532 F.3d at 1265; *see also Kandutsch*, 799 N.W.2d at 879. That the Clause's core protection has no work to do suggests that purely machine-made data are not the type of evidence the Clause was designed to address.

In short, a computer's pure output is not made for the "primary purpose of establishing or proving past events potentially relevant to later criminal prosecution." *Bullcoming v. New Mexico*, 564 U.S. 647, 659 n.6 (2011) (cleaned up). Nor are such data "statements by a person." *Ortiz-Zape*, 367 N.C. at 10 (cleaned up). We therefore hold that "machine-generated raw data, if truly machine-generated," are "neither hearsay nor testimonial" under the Confrontation Clause. *Id.* (cleaned up).

Our decision, however, does not green-light the unfettered admission of all electronic evidence. For one, the normal authentication rules remain in place—a party seeking to admit an exhibit must authenticate it with "evidence sufficient to support a finding that the matter in question is what its proponent claims."³ N.C.G.S.

³ Before the Court of Appeals, Mr. Lester did not argue or otherwise contest the authenticity of Exhibits #2 and #3. As well, his brief to this Court states that: "Authenticity has nothing to do with the issues at bar. Mr. Lester has not argued that the Excel files which the State produced as State's Exhibits #2 and #3 are not what the State's own evidence purported—an Excel file which resulted from a series of transactions: 1) someone at Verizon

§ 8C-1, Rule 901 (2023). Also, we focus here on data produced entirely by the internal operations of a computer or other machine, free from human input or intervention. *See Washington*, 498 F.3d at 230–31. Not all electronic evidence fits that description. North Carolina courts have distinguished computer-generated data from two other classes of electronic evidence: (1) computer-stored evidence, and (2) human interpretations of computer-produced data. *See State v. Smith*, 287 N.C. App. 191, 197 (2022); *Ortiz-Zape*, 367 N.C. at 9–10; *State v. Craven*, 367 N.C. 51, 54–57 (2013).

The first category—computer-stored records—refers to evidence that originates in substance from a human source but is simply housed in electronic form. *See Smith*, 287 N.C. App. at 197. Despite their digital trappings, computer-stored records “represent[] only the by-product of a machine operation which uses for its input ‘statements’ entered into the machine by out of court declarants.” *See Armstead*, 432 So. 2d at 839. Think of emails, spreadsheets, or written documents saved on a computer. Although these items are digitized and preserved via electronic systems, their content relays “the statements and assertions of a human being.” *Smith*, 287 N.C. App. at 197 (quoting *Kandutsch*, 799 N.W.2d at 878). If “retrieved from the computer and introduced into evidence in printout form,” this type of evidence may qualify as a testimonial statement. *See Armstead*, 432 So. 2d at 839. For that reason,

took its raw data and created a record file of unknown type, which 2) someone at the police station downloaded, which 3) someone at the police station then ran through the PLX program using some undefined standards of relevancy to eventually produce 4) the Excel files which the police printed out for trial.” The question of authenticity is therefore not before us. *See N.C. R. App. P. 28(a)*.

computer-stored records must be assessed under the standard principles of hearsay and the Confrontation Clause.

The same is true for human interpretations of computer-generated data. This type of statement draws from a computer’s output but ultimately reflects a person’s conclusion about “past events and human actions not revealed in raw, machine-produced data.” *Bullcoming*, 564 U.S. at 660. Take, for instance, a laboratory machine that analyzes the sugar and insulin levels in a blood sample. A physician might review the data and diagnose a patient with diabetes. The machine’s raw results are not testimonial; the diagnosis—a human judgment based on that data—is. *See Moon*, 512 F.3d at 362; *see also Bullcoming*, 564 U.S. at 659–60 (explaining that an analyst’s certification of a blood test “reported more than a machine-generated number” because it required “interpretation” and “exercising . . . independent judgment”).

If these distinctions sound abstract, consider the example we used in *Ortiz-Zape*. *See* 367 N.C. at 9. Imagine a drunk driving case in which a gas chromatograph measures a suspect’s blood alcohol concentration. The chromatograph’s raw data—showing the chemical composition of the blood sample—are simply “the product of a machine.” *Id.* A printout of those results is, in turn, just a physical representation of the machine’s pre-programmed internal processes. The key point is that no human judgment contributes to producing this information—the machine simply records and reports what it measures.

Next, imagine that an analyst reviews the chromatograph's printout and writes a "lab report certifying [the] defendant's blood-alcohol level." *Id.* That report is no longer the machine's output—rather, it is the "testimonial statement of a person" because it reflects the analyst's judgment and interpretation of the computer data. *Id.* This is the core teaching of *Melendez-Diaz*, 557 U.S. at 310–12, and *Bullcoming*, 564 U.S. at 659–63.

Finally, imagine that the analyst saves her report on her computer's hard drive or emails it to a supervisor. At that point, the report or the email becomes machine-stored data. *See Smith*, 287 N.C. App. at 197. Although the statements exist in electronic form, they do not lose their testimonial nature once saved on a computer or transmitted via email. Their content remains a human-created assertion, even though the computer holds a digital version. *See id.*

These distinctions matter. By drawing them, we preserve the integrity of the Confrontation Clause and hearsay rules, ensuring that testimonial statements—explicit or implicit—do not bypass the procedural safeguards meant to test their reliability. *See Crawford*, 541 U.S. at 65. While truly machine-generated data fall outside the Clause's sweep, electronic evidence relaying testimonial human statements must meet the normal evidentiary and constitutional requirements.

IV. Application to Mr. Lester's Case

The Court of Appeals failed to correctly examine whether Exhibits #2 and #3 were testimonial hearsay that triggered the Confrontation Clause. For one, the

decision below blurred the line between computer-generated and computer-stored data, treating evidence created by a machine the same as evidence merely housed on one. That distinction is pivotal. As explained above, a computer's raw output is neither testimonial nor an out-of-court human statement. *See Ortiz-Zape*, 367 N.C. at 10. Properly classifying the exhibits therefore shapes whether the Confrontation Clause and hearsay rules apply. The Court of Appeals erred in eliding this foundational issue.

As well, the Court of Appeals conflated the timing of the records' production with the timing of their creation. The court assumed that because Verizon gave the phone records to police in response to a court order, those records were necessarily testimonial. But the "primary purpose" test focuses on why a statement was made in the first place—not why it was later retrieved and turned over. *See Bryant*, 562 U.S. at 359 (zeroing in on the "circumstances in which the encounter occurs and the statements and actions of the parties"); *Melendez-Diaz*, 557 U. S. at 311 (concluding that certificates of the results of forensic analysis were testimonial because they were created "under circumstances which would lead an objective witness reasonably to believe that the statement[s] would be available for use at a later trial" (quoting *Crawford*, 541 U.S. at 52)); *Smith*, 602 U.S. at 802 (remanding for lower court to assess whether an analyst had a "focus on court" when she "created the report or notes" at issue (cleaned up)).

Here, then, if Verizon’s systems recorded the data in real time as part of the company’s day-to-day operations, then that information was probably not created for use in a trial, even if it was later accessed for that reason. The Eleventh Circuit made a similar point when analyzing Sprint’s raw billing data burned on a compact disk. *See Lamons*, 532 F.3d at 1262. For Confrontation Clause purposes, the court explained, the key question is not whether police ultimately “requested the production of the evidence.” *Id.* at 1263–64. Instead, the “relevant point” is whether a “human intervened at the time the raw billing data was ‘stated’ by the machine—that is, recorded onto Sprint’s data reels.” *Id.* at 1264. Similar logic applies here, and the Court of Appeals erred in ignoring these temporal principles.

V. Conclusion

The Court of Appeals improperly examined whether the Confrontation Clause and hearsay rules barred admission of Exhibits #2 and #3. We therefore reverse its decision and remand this case to that court as outlined below. Although we allowed discretionary review on whether the Court of Appeals correctly applied the harmless-error standard, we do not reach that question since we conclude that the lower court’s analysis was erroneous. On remand, the Court of Appeals must address the other issues raised by Mr. Lester.

REVERSED AND REMANDED.