

**[J-12-2023] [MO: Todd, C.J.]
IN THE SUPREME COURT OF PENNSYLVANIA
WESTERN DISTRICT**

COMMONWEALTH OF PENNSYLVANIA,	:	No. 19 WAP 2022
	:	
Appellee	:	Appeal from the Order of the
	:	Superior Court entered May 26,
	:	2021 at No. 582 WDA 2020,
v.	:	affirming the Judgment of Sentence
	:	of the Court of Common Pleas of
	:	Allegheny County entered February
ANGELO WEEDEN,	:	24, 2020 at No. CP-02-CR-
	:	0000513-2019.
Appellant	:	
	:	ARGUED: April 18, 2023

CONCURRING OPINION

JUSTICE WECHT

DECIDED: NOVEMBER 16, 2023

ShotSpotter’s proprietary gunshot-detection system is a network of acoustic sensors that is installed throughout a neighborhood to aid and facilitate law enforcement’s response to gun violence.¹ When potential gunfire is detected, sensors record the time and capture an audio recording of the sound.² Two artificial intelligence algorithms immediately assess the data in order to triangulate the location of the sounds and to filter

¹ ShotSpotter FAQs, SoundThinking, www.soundthinking.com/law-enforcement/gunshot-detection-technology (last visited Sept. 7, 2023) [hereinafter *ShotSpotter FAQs*]. ShotSpotter was founded in 1996. *About SoundThinking*, SoundThinking, <https://www.soundthinking.com/company/> (last visited Sept. 14, 2023). In 2023, in order to reflect its expansion to include a broader spectrum of law enforcement tools, ShotSpotter underwent a corporate rebranding, and now calls itself “SoundThinking.” *Id.* However, the company retained “ShotSpotter” as the name of the proprietary technology at issue in this case. *Id.*

² ShotSpotter FAQs.

out noises that are not gunshots (such as fireworks).³ The information generated by these algorithms is immediately reviewed and interpreted by a trained ShotSpotter employee in California. Within approximately sixty seconds (or less), the analyst listens to the audio recording and conducts a “visual analysis of the waveform.”⁴ If the analyst determines that the noise was, in fact, the sound of gunfire, he or she immediately alerts local law enforcement.⁵

ShotSpotter compiles all of this information into an “Investigative Lead Summary.” The data in this document reflects the input of at least one of ShotSpotter’s trained analysts, who are known as “Incident Reviewers.”⁶ ShotSpotter admits that the data in the summary is unreliable, and that it should not be used for anything other than initial investigative purposes.⁷ Although these summaries are modified by human input and are not amenable to cross-examination, they are introduced as substantive evidence at criminal trials—including in the case at bar—in order to prove that a defendant, in fact, fired a gun at a particular time and location.⁸

³ *SoundThinking Responds to False Claims*, SoundThinking, <https://www.soundthinking.com/soundthinking-responds-to-false-claims> (last visited Sept. 14, 2023).

⁴ *Id.*

⁵ ShotSpotter FAQs.

⁶ Appellant’s Br. App. D, at 3 (“Machine learning algorithms analyze and classify the sounds before they are reviewed by acoustic experts at the Incident Review Center.”).

⁷ See *id.* at 2 (“The number of individual shots below may not match the round count reported on page one if an Incident Reviewer adjusted the round count during incident review prior to publication.”); *id.* at 3 (“Although it provides precise trigger-pull location and timing as determined automatically by the ShotSpotter system, this summary should only be used for initial investigative purposes because the shot timing, location, and count could differ once reviewed by a ShotSpotter Forensic Engineer.”).

⁸ That ShotSpotter documentation is used as a trial tool is not merely an incidental byproduct of using its system. To the contrary, ShotSpotter, in part, markets itself for (continued...)

Admitting these out-of-court statements as substantive evidence undermines each of the foundational interests underlying the Confrontation Clause of the Sixth Amendment to the United States Constitution.⁹ However, as the Majority aptly explains,¹⁰ the “primary purpose” of the Investigative Lead Summary is to assist law enforcement in responding to, and subsequently investigating, an “ongoing emergency,”¹¹ not “to establish or prove past events potentially relevant to later criminal prosecution.”¹² Thus, the Investigative Lead Summary is nontestimonial, and, pursuant to the United States Supreme Court’s precedents, can be admitted at trial without cross-examination and without running afoul of the Confrontation Clause.¹³ Bound by those precedents, I join the Majority’s opinion. I write separately to highlight the inequity that results from treating nontestimonial statements differently than testimonial ones under the Confrontation Clause.

such use. SoundThinking advertises on its website that it provides “Litigation Support” for prosecutors through its “Investigative Lead Summaries” and “Detailed Forensic Reports.” *ShotSpotter Forensic Services*, SoundThinking, <https://www.soundthinking.com/law-enforcement/leading-gunshot-detection-system> (last visited Sept. 14, 2023). SoundThinking also offers “Expert Witness Services” to assist prosecutors in preparing for trial or to provide expert witness testimony. *Id.*

⁹ The Confrontation Clause of the Sixth Amendment to the United States Constitution states 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. Similarly, the Pennsylvania Constitution provides that, “[i]n all criminal prosecutions the accused hath a right . . . to be confronted with the witnesses against him.” Pa. Const. art. I, § 9. Although Weeden invokes both Constitutions, he does not argue that Pennsylvania’s Confrontation Clause provides greater protections than its federal counterpart.

¹⁰ See Majority Op. at 28-29.

¹¹ See *Davis v. Washington*, 547 U.S. 813, 822 (2006).

¹² *Id.*

¹³ See Majority Op. at 28-29.

The Confrontation Clause of the Sixth Amendment, and the concomitant right to cross-examination of adverse witnesses, are “bedrock procedural guarantee[s]”¹⁴ that are an “essential and fundamental requirement for the kind of fair trial which is this country’s constitutional goal.”¹⁵ “The fact that this right appears in the Sixth Amendment of our Bill of Rights reflects the belief of the Framers of those liberties and safeguards that confrontation was a fundamental right essential to a fair trial in a criminal prosecution.”¹⁶ Thus, “[i]n the constitutional sense,” evidence in a criminal trial “shall come from the witness stand in a public courtroom where there is full judicial protection of the defendant’s right of confrontation, of cross-examination, and of counsel.”¹⁷

The Confrontation Clause operates “to ensure the reliability of the evidence against a criminal defendant by subjecting it to rigorous testing in the context of an adversar[ial] proceeding before the trier of fact.”¹⁸ “The word ‘confront,’ after all, also means a clashing of forces or ideas”¹⁹

The primary object of the [Confrontation Clause] was to prevent depositions or *ex parte* affidavits, such as were sometimes admitted in civil cases, being used against the prisoner in lieu of a personal examination and cross-examination of the witness, in which the accused has an opportunity, not only of testing the recollection and sifting the conscience of the witness, but of compelling him to stand face to face with the jury in order that they may look at him, and judge by his demeanor upon the stand and the manner in which he gives his testimony whether he is worthy of belief.²⁰

¹⁴ *Crawford v. Washington*, 541 U.S. 36, 42 (2004).

¹⁵ *Pointer v. Texas*, 380 U.S. 400, 405 (1965).

¹⁶ *Id.* at 404.

¹⁷ *Turner v. Louisiana*, 379 U.S. 466, 472-73 (1965).

¹⁸ *Maryland v. Craig*, 497 U.S. 836, 845 (1990).

¹⁹ *Id.*

²⁰ *Mattox v. United States*, 156 U.S. 237, 242-43 (1895).

Thus, the Confrontation Clause ensures not only a “personal examination” of a testifying witness,²¹ but it also:

(1) insures [*sic*] that the witness will give his statements under oath—thus impressing him with the seriousness of the matter and guarding against the lie by the possibility of a penalty for perjury; (2) forces the witness to submit to cross-examination, the greatest legal engine ever invented for the discovery of truth; [and] (3) permits the jury that is to decide the defendant’s fate to observe the demeanor of the witness in making his statement, thus aiding the jury in assessing his credibility.²²

An accused can take advantage of these “bedrock procedural guarantee[s]”²³ only when a person with first-hand knowledge of the evidence testifies “from the witness stand in a public courtroom.”²⁴ The Confrontation Clause’s protections fall to the wayside when the evidence being offered is an out-of-court statement. A document, a tape-recording, or the like cannot be cross-examined. Nonetheless, the concern for proof of guilt by “*ex parte* affidavits”²⁵ notwithstanding, the Supreme Court of the United States has never held that an accused’s inability to cross-examine such evidence is a *per se* barrier to its admission. Instead, the Court hinges admissibility upon the reason that the out-of-court statement was created.

Initially, the Court held that the Confrontation Clause did not prohibit the use of out-of-court statements as substantive evidence so long as the statement “bears adequate

²¹ *Id.* at 242.

²² *California v. Green*, 399 U.S. 149, 158 (1970) (footnote and internal quotation marks omitted).

²³ *Crawford*, 541 U.S. at 42.

²⁴ *Turner*, 379 U.S. at 473.

²⁵ *Mattox*, 156 U.S. at 242.

‘indicia of reliability.’”²⁶ The proponent of such evidence could establish its reliability by proving to a court satisfactorily that the evidence fell “within a firmly rooted hearsay exception,” or, if no such exception applied, that it otherwise exhibited “particularized guarantees of trustworthiness.”²⁷ This standard reigned in courtrooms throughout the nation for nearly twenty-five years, until the Court reversed course in its seminal decision in *Crawford v. Washington*.

In *Crawford*, the Court, concerned that *Roberts*’s reliability-focused test “stray[ed] from the original meaning of the Confrontation Clause,”²⁸ reconsidered the complicated interplay between that Clause and the admissibility of an unavailable witness’s out-of-court statement. The text of the Clause, the Court noted, shed no meaningful light on the problem and, thus, the Court explored the common law history of the right to confront “witnesses.”²⁹ From that historical account, the Court discerned two “inferences about the meaning of the Sixth Amendment.”³⁰

First, the Court determined, “the principal evil at which the Confrontation Clause was directed was the civil-law mode of criminal procedure, and particularly its use of *ex parte* examinations as evidence against the accused.”³¹ The Court stressed that the Framers’ concern with the use of *ex parte* affidavits as evidence in criminal cases indicated their intent that the protections afforded by the Clause apply not only to “in-court

²⁶ *Ohio v. Roberts*, 448 U.S. 56, 66 (1980) (quoting *Mancusi v. Stubbs*, 408 U.S. 204, 213 (1972)).

²⁷ *Id.*

²⁸ *Crawford*, 541 U.S. at 42.

²⁹ *Id.* at 42-50.

³⁰ *Id.* at 50.

³¹ *Id.*

testimony,” but also to a “specific type of out-of-court statement.”³² Thus, the focus of the Clause is not, as the Court held in *Roberts*, upon reliability, but instead upon whether the contested statement came from a “witness,” or, put differently, someone who “bears testimony.”³³ The correct constitutional inquiry, the Court held, is whether a statement is “testimonial” in nature, not whether it might be admissible under some “modern hearsay rule.”³⁴ Although the Court did not offer a comprehensive definition at the time, it did note that, “typically,” the term “testimony” is understood as a “solemn declaration or affirmation made for the purpose of establishing or proving some fact.”³⁵ That is, “[a]n accuser who makes a formal statement to government officers bears testimony in a sense that a person who makes a casual remark to an acquaintance does not.”³⁶ Examples of this “core class” of testimonial statements include “*ex parte* in-court testimony or its functional equivalent— . . . affidavits, custodial examinations, prior testimony that the defendant was unable to cross-examine”³⁷

Second, the Court inferred from its historical examination that “the Framers would not have allowed admission of testimonial statements of a witness who did not appear at trial unless he was unavailable to testify, and the defendant had had a prior opportunity for cross-examination.”³⁸ The opportunity to cross-examine a witness about a “testimonial” statement is not “merely one of several ways to establish reliability,” but

³² *Id.* at 50-51.

³³ *Id.* at 51.

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Id.*

³⁷ *Id.* (citations omitted).

³⁸ *Id.* at 53-54.

instead is the dispositive “condition for admissibility.”³⁹ Therefore, the admissibility of an out-of-court statement for Confrontation Clause purposes depends entirely upon whether that statement was “testimonial,” and not upon “amorphous notions” of reliability,⁴⁰ or upon a “malleable standard” that scrutinizes a statement for “particularized guarantees of trustworthiness.”⁴¹ Thus, the *Crawford* Court overruled *Roberts* and reoriented the Confrontation Clause jurisprudence to focus upon the “testimonial” character of an out-of-court statement, and not upon its reliability.

In a series of cases decided in the wake of *Crawford*, the Court examined a variety of evidentiary issues in an effort to define what makes a statement “testimonial.”⁴² The Court settled on the “primary purpose” test, which defines a statement as “nontestimonial” when it is made “under circumstances objectively indicating that the primary purpose” of the statement is to “enable police assistance to meet an ongoing emergency.”⁴³ On the other hand, a “testimonial” statement is one made under circumstances that “objectively indicated that there is no such ongoing emergency, and that the primary purpose of the

³⁹ *Id.* at 55-56.

⁴⁰ *Id.* at 61.

⁴¹ *Id.* at 60 (citations omitted).

⁴² See *Davis*, 547 U.S. at 828, 834 (2006) (finding that a statement made by a domestic violence victim in the form of an affidavit prepared for police was testimonial, while another domestic violence victim’s statement made during a 911 call was not); *Melendez-Diaz v. Massachusetts*, 557 U.S. 305, 311 (2009) (holding that “certificates of analysis” identifying a substance as a controlled substance were testimonial); *Bullcoming v. New Mexico*, 564 U.S. 647, 652 (2011) (concluding that a blood alcohol concentration report was testimonial, which, to be admissible, required the analyst—not a surrogate—who conducted the testing and prepared the report to testify at trial); *Michigan v. Bryant*, 562 U.S. 344, 377-78 (2011) (explaining that a shooting victim’s statement to police hours before dying was not testimonial because the statement was made for the purpose of assisting the police during an ongoing emergency).

⁴³ *Davis*, 547 U.S. at 822.

interrogation is to establish or prove past events potentially relevant to [a] later criminal prosecution.”⁴⁴

The Investigative Lead Summary at issue in the instant case contains data collected on December 15, 2018 at 2:43 p.m., the date and time of the alleged shooting.⁴⁵ The summary provides a map and an address of the location at which ShotSpotter’s audio sensors detected the sound of gunshots.⁴⁶ The summary also contains audio files permitting the recipient to listen to the recordings captured by the sensors.⁴⁷ The summary provides three such files.⁴⁸ Next, the document identifies two of those sounds as verified gunshots, and provides an email address for the “Incident Reviewer” who first reviewed the three sounds, identified them initially as gunshots, and alerted the Pittsburgh Police.⁴⁹

Notably, the Investigative Lead Summary lists the “Report Date” as July 3, 2019, which is approximately six months after the incident in question.⁵⁰ Based upon this gap in time, there is at least a colorable argument that the actual document that was submitted to the jury in this case was not generated in response to an ongoing emergency, but instead was created six months later, long after any such emergency dissipated. Thus, I do not agree with the Majority that the “Report Date” is “irrelevant.”⁵¹ Nonetheless, the

⁴⁴ *Id.*

⁴⁵ Appellant’s Br. App. D, at 2.

⁴⁶ *Id.*

⁴⁷ *Id.* at 1.

⁴⁸ *Id.*

⁴⁹ *Id.* at 2.

⁵⁰ *Id.* at 1.

⁵¹ See Majority Op. at 27 n.24.

argument ultimately fails. The record contains no evidence to suggest that the “Report Date” was anything other than the date that the summary either was printed or distributed to the party that requested it. All of the information contained in the Investigative Lead Summary was generated and collected within sixty seconds of ShotSpotter’s initial detection of potential gunfire, and all of that data was stored within ShotSpotter’s computer system. Producing that information in document form is no different than providing an investigating police officer with a copy of a recording of a 911 call.⁵² Doing so does not change the fact that the substance of the report, like a 911 call, was created in response to an ongoing emergency. Lacking any indication to the contrary, I conclude that the “Report Date” was merely the date the report was printed or transmitted to the requesting law enforcement officer, and not the date of the report’s actual creation.

Thus, pursuant to the Supreme Court’s Confrontation Clause jurisprudence, this out-of-court statement must be deemed to be nontestimonial, and, accordingly, admissible against Weeden as substantive evidence, as the Majority holds. We have no choice but to adhere to the United States Supreme Court’s precedents on matters of United States constitutional law. I write separately to suggest that there are troubling consequences of doing so.

As noted above, the core function of the Confrontation Clause is to “ensure the reliability of the evidence against a criminal defendant”⁵³ by ensuring that a criminal defendant is afforded an opportunity to test the state’s evidence thorough cross-

⁵² See *Davis*, 547 U.S. at 828 (holding that victim’s statements during 911 call were non-testimonial).

⁵³ *Craig*, 497 U.S. at 845.

examination, “the greatest legal engine ever invented for the discovery of truth.”⁵⁴ This guarantee is “essential to a fair trial.”⁵⁵ The *Crawford* Court explained that:

the Clause’s ultimate goal is to ensure reliability of evidence, but it is a procedural rather than a substantive guarantee. It commands, not that evidence be reliable, but that reliability be assessed in a particular manner: by testing in the crucible of cross-examination. The Clause thus reflects a judgment, not only about the desirability of reliable evidence (a point on which there could be little dissent), but about how reliability can best be determined. Cf. 3 [W.] Blackstone, *Commentaries [on the Laws of England]*, at 373 [(1768)] (“This open examination of witnesses . . . is much more conducive to the clearing up of truth”); M. Hale, *History and Analysis of the Common Law of England* 258 (1713) (adversarial testing “beats and bolts out the Truth much better”).⁵⁶

In other words, the Confrontation Clause safeguards fair trials by requiring that the evidence used against a criminal defendant be subject to rigorous and effective examination by competent legal counsel. In light of this constitutional command, whether by its text or its history, the Sixth Amendment excludes from trial testimonial out-of-court statements, unless the author of such a statement is subject to cross-examination.

According to the Supreme Court, the Confrontation Clause applies differently to nontestimonial statements. However, the broader purpose of the Confrontation Clause does not change, *i.e.* ensuring that each criminal defendant is afforded a fair trial by guaranteeing him or her the right to test the reliability of evidence at trial, regardless of the testimonial or nontestimonial nature of the evidence. As such, it appears incongruous that the availability of this fundamental protection would turn entirely upon the testimonial character of the evidence. The Investigative Lead Summary at issue in this case is an

⁵⁴ *Green*, 399 U.S. at 158 (quoting 5 J. Wigmore, *Evidence* § 1367 (3d ed. 1940)).

⁵⁵ *Pointer*, 380 U.S. at 404.

⁵⁶ *Crawford*, 541 U.S. at 61-62.

apt example of why this bifurcation not only fails to further the goals of the Confrontation Clause, but actually undermines them.

In this case, the Commonwealth alleged that Weeden fired four gunshots at the victim's vehicle. This fact was contested at trial. When the police investigated the scene of the crime, they found no shell casings, bullets, or other evidence that gunshots in fact were fired at that location. However, there were two bullet holes in the victim's vehicle. Weeden presented an alibi defense, claiming that he was eating chicken noodle soup at his then-girlfriend's house and playing video games with her son. In order to prove definitively that Weeden fired a gun at that time and place, the Commonwealth was permitted to introduce to the jury as substantive evidence—that is, for the truth of the matter asserted—the ShotSpotter Investigative Lead Summary, over Weeden's objection.

That the Investigative Lead Summary is nontestimonial does not, *ispo facto*, mean that the document should be admitted without cross-examination and without regard to the fundamental purposes of the Confrontation Clause. To the contrary, the summary bears many of the hallmarks of the type of unreliable evidence for which the Confrontation Clause is designed to test.

The Investigative Lead Summary is not an automatically created dataset that is generated by an entirely computerized or digital system,⁵⁷ as the Commonwealth argues and as the lower courts found. Only the initial stages of a ShotSpotter "hit" involve automated systems. The system is triggered when an acoustic sensor detects the sound of a potential gunshot. That noise then is interpreted by two computer algorithms. The

⁵⁷ See, e.g., *Commonwealth v. Wallace*, 289 A.3d 894, 895-96 (Pa. 2023) (holding that the automated production of GPS data was not a "statement" for hearsay purposes, as there is no declarant).

automation ends there, and, “[w]ithin seconds,”⁵⁸ ShotSpotter’s human analysts take over.

As Detective Richard Baumgart, who has received extensive ShotSpotter training, explained, every gunshot-like sound that is detected by one of ShotSpotter’s acoustic sensors “travel[s] through a human operator.”⁵⁹ The detective “believe[d]” that the Investigative Lead Summary submitted as evidence in this case was reviewed and altered by a human analyst, because his training and experience has taught him that all ShotSpotter data is “sent to their human operators for review,” and that “everything that comes back to us as being gunshots has been reviewed by a human reviewer.”⁶⁰

The Investigative Lead Summary itself confirms that what the jury ultimately sees has been reviewed, and likely amended or adjusted, by a human analyst. The report contains a section entitled “INDIVIDUAL SHOTS.”⁶¹ This section follows the audio recording files and lists the number of gunshots that the human analyst identified from the noises captured in the audio recordings. The section also shows the date, time, and location of the shots, as well as the time intervals between the shots. Adjacent to this section on the summary, ShotSpotter cautions that:

[t]he following shot count, times, and locations were automatically calculated by the ShotSpotter system at the time of detection. They are approximate and should be deemed as such. **The number of individual shots below may not match the round count reported on page one if an Incident Reviewer adjusted the round count during incident review**

⁵⁸ Notes of Testimony (“N.T.”) at 95, Dec. 4, 2019.

⁵⁹ *Id.* at 93.

⁶⁰ *Id.* at 104, 107.

⁶¹ Appellant’s Br. App. D, at 2.

prior to publication. Some shots may overlap or hide other shots on the map.⁶²

Then, in the “DISCLAIMER” section of the report, ShotSpotter states the following:

The Investigative Lead Summary is produced using data automatically generated by the ShotSpotter system and has not been independently reviewed by our Forensic Engineers. Although it provides precise trigger-pull location and timing as determined automatically by the ShotSpotter system, **this summary should only be used for initial investigative purposes because the shot timing, location, and count could differ once reviewed by a ShotSpotter Forensic Engineer.** Factors, such as obstructed or attenuated muzzle blast, weapon discharge in an enclosed space, or if the weapon discharged is of .25 or smaller caliber, may prevent the sensor(s) from detecting all or some of the shots fired. This summary has been generated solely for the purpose for which it is provided. Nothing herein shall to any extent substitute for the independent investigation of the shooting incident. The data and conclusions herein should be corroborated with other evidentiary sources such as recovered shell casings and witness statements.⁶³

In the “ABOUT SHOTSPOTTER” section, ShotSpotter once more explains that there is human involvement in the creation of the summary:

ShotSpotter uses strategically placed acoustic sensors to detect and locate gunshots within a coverage area. The locations of the gunshots are calculated using audio pulse data and multilateration. Machine learning algorithms analyze and classify the sounds before **they are reviewed by acoustic experts** at the Incident Review Center. **Within seconds, Incident Reviewers add relevant tactical intelligence and publish confirmed gunshots to ShotSpotter subscribers.**⁶⁴

Finally, ShotSpotter describes the human element of its process on its website:

ShotSpotter uses an array of acoustic sensors that are connected wirelessly to ShotSpotter’s centralized, cloud-based application to reliably detect and accurately locate gunshots using triangulation. Each acoustic sensor captures the precise time and audio associated with impulsive sounds that

⁶² *Id.* (emphasis added).

⁶³ *Id.* at 3 (emphasis added).

⁶⁴ *Id.* (emphasis added).

may represent gunfire. This data is used to locate the incident and is then filtered by sophisticated machine algorithms to classify the evident as a potential gunshot. **Acoustic experts, who are located and staffed in ShotSpotter's 24x7 Incident Review Center, ensure and confirm that the events are indeed gunfire. They can append the alert with the other critical intelligence such as whether a fully automatic weapon was fired or whether there are multiple shooters.** This entire process takes less than 60 seconds from the time of the shooting to the digital alert popping onto a screen of a computer in the 911 Call Center or on a patrol officer's smartphone or mobile laptop.⁶⁵

Proof that the data in the Investigative Lead Summary at issue in this case “travel[ed] through a human operator”⁶⁶ is evident on the face of the document. First, on the second page of the summary, the “INCIDENT TIMELINE” section identifies an individual that “published” the timeline by the email address “REVIEWER@SHOTSPOTTER.COM.”⁶⁷ Second, the summary contains three audio recordings that captured three potential gunshot sounds. However, the “INDIVIDUAL SHOTS” section indicates that only two of those sounds were interpreted to be actual gunshots by a human analyst. In other words, what occurred is precisely what ShotSpotter explained would happen. “The number of individual shots” did not “not match the round count reported on page one” because “an Incident Reviewer adjusted the round count during incident review prior to publication.”⁶⁸ Thus, there is ample evidence that the summary was created in large part through significant human input.

Consequently, the trial court in this case was plainly incorrect when it concluded that the summary in this case was “unmodified by the person who reviewed the recorded

⁶⁵ ShotSpotter FAQs .

⁶⁶ N.T. at 93, Dec. 4, 2019.

⁶⁷ Appellant's Br. App. D, at 2.

⁶⁸ *Id.*

sound.”⁶⁹ The Superior Court made the same mistake.⁷⁰ This fundamental misreading (or misunderstanding) of the document also led those courts erroneously to conclude that there was no person that Weeden could confront.⁷¹ The ShotSpotter analyst who listened to the audio recordings, used his or her “hundreds of hours of training”⁷² to decipher which of those sounds were, in fact, gunshots, and reported his or her conclusions in the Investigative Lead Summary—all of which subsequently was presented as untested substantive evidence of a contested, critical fact at trial—is that person.

The problem here is not that no such person exists, as the lower courts believed. The problem is that the law currently does not require the Commonwealth to put that person on the witness stand and require that his or her interpretation of the noises and the resulting conclusions be tested through cross-examination. The analyst was not subject to a “personal examination”⁷³ that:

(1) insures [*sic*] that the witness will give his statements under oath—thus impressing him with the seriousness of the matter and guarding against the lie by the possibility of a penalty for perjury; (2) forces the witness to submit to cross-examination, the greatest legal engine ever invented for the discovery of truth; [and] (3) permits the jury that is to decide the defendant's fate to observe the demeanor of the witness in making his statement, thus aiding the jury in assessing his credibility.⁷⁴

⁶⁹ Trial Court Opinion (“T.C.O.”) at 9.

⁷⁰ See *Commonwealth v. Weeden*, 253 A.3d 329, 336 (Pa. Super. Ct. 2021) (“The report was not altered or amended by any person and no one individual can be considered its author.”).

⁷¹ See T.C.O. at 9; *Weeden*, 253 A.3d at 336.

⁷² N.T. at 95, Dec. 4, 2019.

⁷³ *Mattox*, 156 U.S. at 242.

⁷⁴ *Green*, 399 U.S. at 158 (footnote and internal quotation marks omitted).

By not requiring the Commonwealth to call the analyst as a witness as a prerequisite to the summary's admissibility, or by pretending that no such witness exists, we eschew each of these essential Confrontation Clause protections. Disconcerting as that may be, the Supreme Court's Confrontation Clause cases require this Court to look the other way.

That there exists a witness that was integral to the creation of this documentary evidence is not the only reason that its reliability should be examined through cross-examination. The Investigative Lead Summary, and the human analyst's conclusions contained therein, are patently unreliable.

Detective Baumgart admitted at trial that ShotSpotter is not a "foolproof" system.⁷⁵ He conceded that, occasionally, the sounds that ShotSpotter detects are not, in fact, gunshots, and that "officers have been dispatched to gunshots where there weren't gunshots"⁷⁶ The detective offered no other explanation for when that happens other than because the human analyst erroneously interpreted a sound as a gunshot.⁷⁷

ShotSpotter candidly warns that its Investigative Lead Summary should be used with caution, as the data may have been altered or may be incomplete. ShotSpotter expressly limits the recommended use of the summary to "initial investigative purposes because the shot timing, location, and count could differ once reviewed by a ShotSpotter Forensic Engineer."⁷⁸ The conclusions may have been entirely incorrect, or may have been subsequently modified. Detective Baumgart did not know whether modification occurred, and, thus, neither did the jury. Moreover, ShotSpotter advises that the "data

⁷⁵ N.T. at 96, Dec. 4, 2019.

⁷⁶ *Id.*

⁷⁷ See *id.*

⁷⁸ Appellant's Br. App. D, at 3.

and conclusions herein should be corroborated with other evidentiary sources such as recovered shell casings and witness statements.”⁷⁹ Despite this warning, and despite the absence of any shell casings to corroborate the summary’s conclusions, it can be admitted nonetheless, because it is nontestimonial. The defendant is unable to test the summary’s reliability before the jury.

The purpose of the right to confront witnesses is “to ensure the reliability of the evidence against a criminal defendant by subjecting it to rigorous testing in the context of an adversar[ial] proceeding before the trier of fact.”⁸⁰ Indeed, “the Clause’s ultimate goal is to ensure reliability of evidence It commands, not that evidence be reliable, but that reliability be assessed in a particular manner: by testing in the crucible of cross-examination.”⁸¹ It is difficult, if not impossible, to comprehend how the Confrontation Clause’s goal of ensuring fair trials is accomplished by applying these core constitutional principles to testimonial statements while refusing to apply them to other out-of-court statements that are facially and inherently unreliable, concededly flawed, and substantially molded by human interpretation, such as the Investigative Lead Summary at issue today. If an affidavit given under oath to police officers is inadmissible because it is not put through the rigors of adversarial testing, it is difficult, if not impossible, to justify exempting ShotSpotter’s summary from this constitutionally mandated process.

One thing is for certain. Even if the division between testimonial and nontestimonial statements is historically justified, allowing the latter to be admitted without a corroborating witness on the stand to undergo cross-examination hardly contributes to

⁷⁹ *Id.*

⁸⁰ *Craig*, 497 U.S. at 845.

⁸¹ *Crawford*, 541 U.S. at 61.

“the kind of fair trial which is this country’s constitutional goal.”⁸² To the contrary, it all but guarantees the opposite. However, unless the Supreme Court of the United States reverses course in its Confrontation Clause cases, or until this Court untethers Article I, Section 9 of the Pennsylvania Constitution from the Supreme Court’s jurisprudence and allows us to examine the question anew under our own charter,⁸³ this inequity shall continue.

⁸² *Pointer* 380 U.S. at 405 (1965).

⁸³ See *In re N.C.*, 105 A.3d 1199, 1210 n.15 (Pa. 2014) (explaining that, because the language of the Sixth Amendment and Article I, Section 9 are identical, a Confrontation Clause analysis would be the same under either charter).