

PETITION APPENDIX

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APPENDIX A

STATE OF CONNECTICUT v. MICHAEL SHARPE
(SC 20815)

Mullins, C. J., and McDonald, D'Auria, Ecker,
Alexander and Dannehy, Js.

Syllabus

Convicted of multiple counts of kidnapping in the first degree in connection with four separate incidents that occurred in 1984, the defendant appealed to this court. During each incident, an unknown assailant robbed and sexually assaulted a woman in her home. The cases remained unresolved until 2020, when law enforcement received information tending to implicate the defendant. Thereafter, the police lawfully collected the defendant's trash from in front of his residence, which included a belt. The police then, acting without a search warrant, submitted the belt to the state forensic laboratory for testing. Analysts used DNA extracted from the belt to conduct a short tandem repeat analysis and determined that that DNA was a contributor to an unknown DNA profile that had been generated from certain items recovered from the four crime scenes. The police then obtained a search warrant to collect a confirmatory sample of the defendant's DNA, which established that the defendant was the likely source of the crime scene DNA. After the presentation of evidence at the defendant's trial, the court instructed the jury on the elements of the kidnapping charges in accordance with this court's decision in *State v. Salamon* (287 Conn. 509), including the six factors that the jury should consider in determining whether the defendant had intended to restrain the victims beyond the degree necessary to commit the underlying crimes. The following day, the court provided the jury with a flowchart outlining the elements of the kidnapping charges as a visual guide to its previous instructions, but the flowchart omitted any reference to the *Salamon* factors. On appeal, the defendant claimed that the warrantless extraction and testing of the DNA from his discarded belt constituted an unreasonable search and seizure in violation of his rights under the fourth amendment to the United States constitution and article first, § 7, of the Connecticut constitution, and that the omission of the *Salamon* factors from the flowchart misled the jury. *Held:*

The defendant could not prevail on his claim that either the warrantless collection or the warrantless analysis of his DNA from the discarded belt violated his rights under the fourth amendment.

The warrantless collection of the defendant's DNA from the discarded belt did not constitute a search under the fourth amendment because, even if the defendant had a subjective expectation of privacy in the biological materials that he inadvertently or involuntarily shed onto the belt, society would not recognize that expectation as reasonable.

It was undisputed that the defendant lacked a reasonable expectation of privacy in the belt itself because he had discarded it into the trash, and, because it is well known that humans cannot completely prevent the shedding of biological materials containing DNA, it is no secret that, when an individual discards an article of clothing or a clothing accessory, DNA may be present on that article or accessory, and may be available for collection.

Moreover, the warrantless analysis of the DNA extracted from the defendant's discarded belt, for identification purposes only, did not constitute a search under the fourth amendment.

Even if this court assumed that the defendant had a subjective expectation of privacy in the identifying characteristics encoded in his DNA, the analysis of DNA extracted from a discarded object that is in the lawful possession of the police, for identification purposes only, does not constitute a search for purposes of the fourth amendment because a defendant does not maintain an objectively reasonable expectation of privacy in the identifying characteristics encoded therein under those circumstances.

In the present case, the defendant did not claim that the state tested his DNA for any purpose other than for identification, and the short tandem repeat analysis employed by the state forensic laboratory was not capable of revealing anything more than the defendant's identity.

After considering the relevant factors set forth in *State v. Geisler* (222 Conn. 672) for construing the parameters of the Connecticut constitution, this court concluded that, under the circumstances of this case, article first, § 7, of the Connecticut constitution did not afford greater protection than the fourth amendment and that the warrantless extraction and testing of the defendant's DNA from the discarded belt for identification purposes only did not violate the defendant's rights under the state constitution.

The trial court did not mislead the jury by providing it with a flowchart that outlined the elements of kidnapping in the first degree but that omitted any reference to the *Salamon* factors.

The defendant conceded that the trial court provided a full description of the *Salamon* factors in its instructions, and it was of no consequence that the court submitted the flowchart to the jury one day after it read its instructions.

Moreover, when the court gave the jury the flowchart, it clearly and expressly instructed that the flowchart was to be used only as a guide to its prior instructions and that the flowchart did not replace those prior instructions, and, because the defendant failed to establish that the jury did not follow the court's instruction regarding the purpose of the flowchart, this court presumed that the jury heeded that instruction and was not misled by the flowchart's omission of the *Salamon* factors.

*(Two justices concurring in part and dissenting
in part in one opinion)*

Argued January 30—officially released October 7, 2025

Procedural History

Substitute information charging the defendant with eight counts of the crime of kidnapping in the first degree, brought to the Superior Court in the judicial district of Hartford and tried to the jury before *D'Adabbo, J.*; verdict and judgment of guilty, from which the defendant appealed to this court. *Affirmed.*

Hope J. Estrella, deputy assistant public defender, for the appellant (defendant).

Denise B. Smoker, senior assistant state's attorney, with whom, on the brief, were *Sharmese Hodge*, state's attorney, and *John Fahey*, supervisory assistant state's attorney, for the appellee (state).

Abigail H. Mason and *Vishal Garg* filed a brief for the Connecticut Criminal Defense Lawyers Association as amicus curiae.

Opinion

MCDONALD, J. This appeal requires us to determine, among other things, whether the police may, without a warrant, collect DNA found on lawfully obtained items and analyze the DNA for identification purposes. The defendant, Michael Sharpe, appeals from the judgment of conviction, rendered after a jury trial, of eight counts of kidnapping in the first degree. He claims that the extraction and testing of his DNA from a belt the police lawfully retrieved from his trash constituted an unreasonable search and seizure that violated his right to privacy under the fourth amendment to the United States constitution and article first, § 7, of the Connecticut constitution. He further claims that the trial court's use of a flowchart as a guide to its lengthy instructions misled the jury because it omitted the factors this court articulated in *State v. Salamon*, 287 Conn. 509, 548, 949 A.2d 1092 (2008). We disagree and affirm the trial court's judgment of conviction.

The facts presented to the jury demonstrate that, in June, 1984, Jane Doe 1¹ was awakened in her Bloomfield apartment sometime after midnight to a man sitting on her bed. Because it was dark, Jane Doe 1 could see only the silhouette of a person whose face was covered with what appeared to be a stocking. The man told her that he had a gun and was hiding from the police because he had shot someone. He then blindfolded her and left the room for approximately ten to fifteen minutes. After returning, the man tied Jane Doe 1's hands, put a gun to her head, and sexually assaulted her. The man told her not to leave her room for thirty minutes or to call the police. He took a few items and left. Jane Doe 1 called the police to report the sexual assault. After investigating the crime scene, the police seized a bedsheet from Jane Doe 1's apartment and submitted it to the Connecticut State Police Forensic Science Laboratory (forensic science laboratory) for testing.

Over the next two months, the police received additional reports from three women who lived in Middletown, Windsor, and Rocky Hill, respectively. Each woman recounted a similar sequence of events: a man had awakened her during the night, told her that he was fleeing the police because he had shot someone or had committed a crime, threatened her with a gun, blindfolded her, and restrained her. The man then searched for money or other valuable items in each woman's apartment sometime before or after sexually assaulting her. The man asked two of the women whether they had any food and appeared to help himself to a meal in their kitchens before leaving. Because the assaults occurred during the night, the women could not provide identifying characteristics beyond the

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

man's hair texture, the tone of his voice, and what felt like scars on the man's stomach and near his shoulder. Police detectives also collected items from the women's apartments and delivered them to the state forensic laboratory.

The state forensic laboratory later analyzed the items collected from each crime scene. The results revealed the presence of semen on Jane Doe 1's bedsheet, Jane Doe 2's bath towel, Jane Doe 3's washcloth, and Jane Doe 4's bedsheet. The test also detected amylase, an enzyme found in human saliva, on a mask recovered from Jane Doe 3's apartment. Because DNA testing was not fully developed or widespread in 1984, the state forensic laboratory was unable to conduct such testing on any of the items at that time.

By 2003, the state forensic laboratory had begun to conduct DNA testing. As a result of this development, the laboratory extracted and tested DNA from the items that investigators had collected from the women's apartments years earlier. After creating a DNA profile for each sample, the laboratory uploaded the DNA profiles to the Combined DNA Index System (CODIS).² Based on its CODIS search and subsequent analysis, the laboratory concluded that all four of the DNA samples likely came from the same male source.³

In 2020, a private forensic investigation company provided the cold case unit of the Office of the Chief State's

² CODIS is a searchable statewide index, linked to a federal index, that "contains DNA profiles from unsolved crimes and compares them to known samples from convicted felons that are periodically added to the database." *State v. Rodriguez*, 337 Conn. 175, 180 n.2, 252 A.3d 811 (2020).

³ Based on this information, the police obtained a John Doe arrest warrant in 2003 in connection with the four sexual assaults that occurred in 1984. The warrant was vacated in 2004, when the twenty year statute of limitations for sexual assault crimes had expired. Later that year, the police obtained another John Doe arrest warrant for kidnapping, for which there is no statute of limitations. See General Statutes § 54-193 (a) (1) (A). The warrant for the kidnapping charges remained in effect until 2021.

Attorney two “investigative leads” based on the DNA profiles the state forensic laboratory had developed in 2003.⁴ Specifically, the company recommended that the cold case unit obtain DNA samples from two brothers who were identified as possible matches to the DNA from the crime scenes. In order to obtain a DNA sample from the first lead, the cold case unit supervisory inspector, Michael Sheldon, instructed an investigative team to knock on the first lead’s door and request that he sign a fictitious petition with a sterilized pen. To obtain the second lead’s DNA, Sheldon’s team retrieved a cigarette that the second lead discarded while driving. The state forensic laboratory tested the DNA it had extracted from the pen and cigarette. Based on the results, the laboratory eliminated the first two leads as contributors to the DNA profiles that were generated from the items that were found at the four crime scenes.

The company subsequently provided two additional leads to the cold case unit, the defendant and his brother. Sheldon’s team first obtained a DNA sample from the defendant’s brother by having him sign a fictitious form. The state forensic laboratory’s DNA testing eliminated him as a suspect. To obtain a DNA sample from the defendant, Sheldon contacted the local trash collection company that serviced the defendant’s house, where the defendant’s daughter and son-in-law also lived. After picking up trash from the defendant’s trash

⁴ The cold case unit of the Office of the Chief State’s Attorney sent the DNA profile created in 2003 to Bode Technology, a private forensic investigative company. Bode Technology utilized single nucleotide polymorphism (SNP) testing to create a DNA profile, which was entered into GEDmatch, a commercial genealogical database. With the use of GEDmatch, Bode Technology was able to create a family tree that identified the investigative leads that it provided to the state in 2020. Prior to trial, the state and the defendant agreed that the state would not identify Bode Technology or present witnesses from Bode Technology to testify about the forensic methods it had used to identify the leads or the results of its findings. The defendant does not argue that the state’s act of contracting with a third party to conduct SNP testing violated the fourth amendment.

cans in front of his house, the trash company delivered it to the police barracks. Detectives inventoried items from the trash, including two belts, a fork, a medical auto-injector pen, and a catheter, believing they belonged to the defendant. The state forensic laboratory then extracted DNA from one of the belts, conducted short tandem repeat (STR) analysis on the DNA, and compared the genetic markers sequenced from the DNA extracted from the belt to the genetic profiles that were generated from the items that were retrieved from the crime scenes.⁵ The state forensic laboratory determined that the DNA extracted from the belt was included as a contributor to one of the unknown profiles. For each lead the police investigated, including the defendant, they acted without a search warrant.

Based on the test results, Sheldon obtained a search warrant and collected a confirmatory sample of the defendant's DNA. The state forensic laboratory compared the confirmatory DNA sample to the DNA profiles created from the four crime scene items. It determined that the DNA profiles that were generated from the items collected from the Middletown, Windsor, and Rocky Hill crime scenes were consistent with the defendant being the source of the DNA and concluded that "[t]he expected frequency of individuals who could be the source of the DNA profile[s] from those three forensic items is less than one in seven billion in the general

⁵ A forensic science examiner testified that the state forensic laboratory used combined testing kits called "Profiler Plus and COfiler" to analyze the DNA extracted from the belt. She further testified that these testing kits were capable of analyzing thirteen STR loci. After testing and sequencing a DNA sample, analysts can determine the frequency of genetic sequences unique to an individual. Based on the profile analysts develop, they can compare it to different DNA samples to identify the likelihood that the DNA profile from one DNA sample matches another DNA sample. In this case, the state forensic laboratory compared the DNA profile from the belt to one of the unknown DNA profiles that was generated from one of the four crime scene items to determine that the defendant's DNA was consistent with being the source of the DNA from that crime scene item.

population.” For the Bloomfield DNA profile, the state forensic laboratory could not eliminate the defendant as a contributor and concluded that “the expected frequency of individuals who cannot be eliminated as a contributor to the DNA profile was approximately . . . one in 7.3 million in the general population.” The police arrested the defendant that day.

The state charged the defendant with eight counts of kidnapping in the first degree: four counts in violation of General Statutes § 53a-92 (a) (2) (A) for “abduct[ing] another person and . . . restrain[ing] the person abducted with intent to . . . violate or abuse [her] sexually,” and four counts in violation of § 53a-92 (a) (2) (B) for “abduct[ing] another person and . . . restrain[ing] the person abducted with intent to . . . accomplish or advance the commission of a felony” After approximately one week of trial, the trial court provided lengthy instructions to the jury. To aid the jury, the court created a one page flowchart that outlined the elements of the kidnapping charges. The flowchart did not refer to or include the factors from *State v. Salamon*, supra, 287 Conn. 548, that jurors should consider in a kidnapping case when determining whether “the movement or confinement of the victim is merely incidental to and necessary for another crime” Id., 547. Over defense counsel’s objection, the court provided the flowchart to the jury. The court reasoned that the flowchart would not mislead the jury because the *Salamon* factors were included in the jury instructions, and it would inform the jury that the flowchart was not a substitute for its instructions. The jury found the defendant guilty on all charges. The defendant was sentenced to a total effective sentence of seventy-two years of incarceration. Additional facts and procedural history will be set forth as necessary.

On appeal, the defendant contends that the warrantless collection and analysis of DNA from his dis-

carded belt violated his right to privacy under the federal and state constitutions. He also argues that the trial court's use of the flowchart misled the jury on the kidnapping charges. We disagree and affirm the judgment of conviction.

I

We first consider the defendant's unpreserved claim that the warrantless collection and analysis of DNA from his discarded belt violated his fourth amendment right to privacy.⁶ Two distinct issues are presented: (1) whether the defendant had a reasonable expectation of privacy in the biological material containing DNA that was shed onto his discarded belt, such that the police needed to obtain a warrant before they could collect such material; and (2) whether the defendant had a reasonable expectation of privacy in the identifying characteristics encoded within his DNA, such that the police needed to obtain a warrant before the DNA was analyzed solely for identification purposes. We address the defendant's federal constitutional claim prior to his state constitutional claim because "we can predict to a reasonable degree of certainty how the

⁶ The defendant concedes that he did not preserve this constitutional claim and seeks review under *State v. Golding*, 213 Conn. 233, 239–40, 567 A.2d 823 (1989), as modified by *In re Yasiel R.*, 317 Conn. 773, 781, 120 A.3d 1188 (2015). The state agrees with the defendant that the first two prongs of *Golding* are satisfied and that this court may proceed to the merits of the defendant's claim. We agree. Accordingly, we review this claim pursuant to *Golding*, under which "a defendant can prevail on a claim of constitutional error not preserved at trial only if *all* of the following conditions are met: (1) the record is adequate to review the alleged claim of error; (2) the claim is of constitutional magnitude alleging the violation of a fundamental right; (3) the alleged constitutional violation . . . exists and . . . deprived the defendant of a fair trial; and (4) if subject to harmless error analysis, the state has failed to demonstrate harmlessness of the alleged constitutional violation beyond a reasonable doubt." (Emphasis in original; internal quotation marks omitted.) *State v. Holley*, 327 Conn. 576, 590 n.8, 175 A.3d 514 (2018); see *State v. Golding*, *supra*, 239–40; see also *In re Yasiel R.*, *supra*, 781 (modifying third prong of *Golding*).

United States Supreme Court would resolve the issue”; *State v. Purcell*, 331 Conn. 318, 334 n.11, 203 A.3d 542 (2019); and it is more efficient to address the defendant’s claim under the federal constitution first. See, e.g., *State v. Taupier*, 330 Conn. 149, 166 n.14, 193 A.3d 1 (2018) (concluding that it was more efficient to address federal claim first because review of federal precedent would be necessary under state constitutional framework set forth in *State v. Geisler*, 222 Conn. 672, 684–85, 610 A.2d 1225 (1992)), cert. denied, 586 U.S. 1148, 139 S. Ct. 1188, 203 L. Ed. 2d 202 (2019). We conclude that the collection of the defendant’s DNA from his discarded belt, which was in the police’s lawful possession, and the subsequent analysis of that DNA solely for identification purposes did not constitute searches under the fourth amendment.⁷

We begin with the guiding legal principles applicable to both issues. The fourth amendment to the United States constitution provides that “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated” U.S. Const., amend. IV. A fourth amendment search occurs either when the government “engage[s] in [a] physical intrusion of a constitutionally protected area”; (internal quotation marks omitted) *United States v. Jones*, 565 U.S. 400, 407, 132 S. Ct. 945, 181 L. Ed. 2d 911 (2012); or “when an expectation of privacy that society is prepared to consider reasonable is infringed.” *United States v. Jacobsen*, 466 U.S. 109, 113, 104 S. Ct. 1652, 80 L. Ed. 2d 85 (1984); see also, e.g., *Katz v. United States*, 389 U.S. 347, 361, 88 S. Ct. 507, 19 L. Ed. 2d 576 (1967) (Harlan, J., concurring).

⁷ The term “collection” refers to the forensic process of physically retrieving samples of biological material from the item or location under investigation. “Analysis” refers to the subsequent forensic processes used to generate a DNA profile from the sample collected. See generally J. Butler, *Fundamentals of Forensic DNA Typing* (Academic Press 2010).

To determine whether a defendant's expectation of privacy was reasonable in nontrespassory contexts, federal courts ordinarily follow the test that Justice John Marshall Harlan articulated in his concurring opinion in *Katz v. United States*, supra, 389 U.S. 361 (Harlan, J., concurring). See, e.g., *United States v. Harry*, 130 F.4th 342, 347 (2d Cir. 2025). "The *Katz* test has both a subjective and an objective prong: (1) whether the [person contesting the search] manifested a subjective expectation of privacy with respect to [the subject of the search]; and (2) whether that expectation [is] one that society would consider reasonable. . . . This determination is made on a case-by-case basis. . . . The burden of proving the existence of a reasonable expectation of privacy rests [with] the defendant." (Internal quotation marks omitted.) *State v. Jacques*, 332 Conn. 271, 279, 210 A.3d 533 (2019); see, e.g., *California v. Ciraolo*, 476 U.S. 207, 211–12, 106 S. Ct. 1809, 90 L. Ed. 2d 210 (1986).

A

Collection of the Defendant's DNA from the Discarded Belt

The defendant first claims that, even though the police may have been in lawful possession of his discarded belt, he maintained a reasonable expectation of privacy in the DNA on the belt, and the collection of his DNA from the belt constituted a search under the fourth amendment. The defendant argues that the first prong of the *Katz* test is inapt when applied to DNA collection under these circumstances. He contends that the record suggests that his DNA transferred to his belt simply because he touched it, and, because people routinely shed material containing DNA without conscious awareness, we should not force our analysis of the defendant's subjective expectation regarding his DNA into the *Katz* framework or conclude that he aban-

doned his reasonable expectation of privacy in his DNA. See, e.g., *State v. Dawson*, 340 Conn. 136, 153, 263 A.3d 779 (2021) (“DNA . . . can be left behind through primary transfer, secondary transfer, or aerosolization . . . [and] ‘touch’ transfer occurs, for example, when you directly touch or pick up an object”). The state argues that, once the defendant had disposed of his belt, with his DNA on it, and had left it on the curb, he abandoned any expectation of privacy in the belt and the DNA on it. Therefore, the subsequent warrantless collection of that DNA, the state argues, did not violate the defendant’s fourth amendment rights. We conclude that the collection of the defendant’s DNA from his discarded belt, separate and apart from the analysis of his DNA, did not constitute a fourth amendment search.

We begin with the legal principles that are relevant to this issue. “The [f]ourth [a]mendment proscribes all unreasonable searches and seizures, and it is a cardinal principle that searches conducted outside the judicial process, without prior approval by [a] judge or magistrate, are per se unreasonable under the [f]ourth [a]mendment—subject only to a few specifically established and [well delineated] exceptions.” (Internal quotation marks omitted.) *Mincey v. Arizona*, 437 U.S. 385, 390, 98 S. Ct. 2408, 57 L. Ed. 2d 290 (1978). Relevant to the present case, the proper inquiry is whether, pursuant to the *Katz* framework, “the person claiming the protection of the [f]ourth [a]mendment has a legitimate expectation of privacy in the invaded place.” (Internal quotation marks omitted.) *State v. Mooney*, 218 Conn. 85, 107, 588 A.2d 145, cert. denied, 502 U.S. 919, 112 S. Ct. 330, 116 L. Ed. 2d 270 (1991). This point is critical to our analysis because the defendant raises two separate and distinct arguments on appeal, which are that he maintained a reasonable expectation of privacy in (1) his DNA, as a physical substance, on his discarded belt, such that a warrant was required to collect the

DNA, and (2) the information encoded within the physical DNA that was collected. We analyze each issue separately because, even if the defendant had relinquished a reasonable expectation of privacy in the physical collection of his DNA, as we conclude, that does not necessarily mean that he had relinquished a reasonable expectation of privacy with respect to all the information encoded therein.

In the present case, it is undisputed that the defendant did not have a reasonable expectation of privacy in his belt because he had discarded it in the trash. See, e.g., *California v. Greenwood*, 486 U.S. 35, 40–42, 108 S. Ct. 1625, 100 L. Ed. 2d 30 (1988) (concluding that individual did not have objectively reasonable expectation of privacy in trash placed on curb). Once the defendant relinquished a reasonable expectation of privacy in the belt, and it came into the lawful possession of the police, however, it was swabbed to collect DNA. The threshold question, therefore, is whether the collection of the defendant’s DNA from the discarded belt, which was in the lawful possession of the police, constituted a fourth amendment search. We utilize the *Katz* framework to answer this question.

Under *Katz*, we must first determine whether the defendant had a subjective expectation of privacy in the DNA on the discarded belt and whether that is an expectation society would recognize as reasonable. See, e.g., *State v. Jacques*, supra, 332 Conn. 279. Even if we assume that the defendant had a subjective expectation of privacy in the material he involuntarily or inadvertently shed onto the belt, we conclude that society would not recognize such an expectation as reasonable. See, e.g., *State v. DeFusco*, 224 Conn. 627, 633 n.9, 620 A.2d 746 (1993) (determination of “whether the defendant possessed a subjective expectation of privacy . . . [was] unnecessary to the resolution of [the] case in light of [this court’s] conclusion that the defendant ha[d]

not satisfied the second part of the *Katz* test”). First, the object that is being swabbed is the discarded belt, in which the defendant has no expectation of privacy. Second, although we agree with the defendant that people can do very little—if anything at all—to completely prevent certain materials that contain DNA from shedding; see, e.g., *State v. Dawson*, supra, 340 Conn. 153 (“DNA . . . can be left behind through primary transfer, secondary transfer, or aerosolization . . . [and] ‘touch’ transfer occurs, for example, when you directly touch or pick up an object”); it is equally true that this fact is commonly known amongst the public. As some courts and scholars have recognized, society is generally aware that people shed biological materials that the police may later use for the purpose of identifying a suspect, whether fingerprints or other materials that contain DNA. See, e.g., *People v. Gallego*, 190 Cal. App. 4th 388, 396–97, 117 Cal. Rptr. 3d 907 (2010), review denied, California Supreme Court, Docket No. S189452 (March 16, 2011); *Raynor v. State*, 440 Md. 71, 94 n.12, 99 A.3d 753 (2014), cert. denied, 574 U.S. 1192, 135 S. Ct. 1509, 191 L. Ed. 2d 433 (2015); L. Matejik, “DNA Sampling: Privacy and Police Investigation in a Suspect Society,” 61 Ark. L. Rev. 53, 78 (2008).

It is no secret, therefore, that, when an individual discards a clothing accessory, DNA may be on that accessory and be available for collection. Indeed, many courts have concluded that, once an individual discards an item, he or she no longer maintains a reasonable expectation of privacy in the item or the DNA available for collection from that item.⁸ See, e.g., *United States*

⁸ We recognize that some of these cases suggest that, once an individual no longer maintains a reasonable expectation of privacy in the discarded item, that person no longer has a reasonable expectation of privacy in his or her DNA and *all* of the information encoded therein. These cases, however, did not consider whether, aside from identifying characteristics encoded in DNA, an individual may maintain a reasonable expectation of privacy in all of the other genetic information encoded therein. Cf. *State v. Carbo*, 6 N.W.3d 114, 131 (Minn. 2024) (Procaccini, J., concurring) (explaining that

v. *Hicks*, Docket No. 2:18-cr-20406-JTF-7, 2020 WL 7311607, *2 (W.D. Tenn. December 11, 2020) (concluding that defendant “surrendered any expectation of privacy he had in the DNA profile that could be extracted” from cigarette butt he had discarded); *United States v. Scott*, Docket No. 10-00027-01-CR-W-ODS, 2011 WL 5387601, *6 (W.D. Mo. October 3, 2011) (explaining that DNA obtained from defendant’s cup should not be suppressed because analysis of abandoned property is not fourth amendment search); *State v. Burns*, 988 N.W.2d 352, 361–64 (Iowa) (explaining that, when defendant had left straw at restaurant, he no longer had reasonable expectation of privacy in straw or DNA on straw), cert. denied, U.S. , 144 S. Ct. 288, 217 L. Ed. 2d 132 (2023); *McCurley v. State*, 653 S.W.3d 477, 490–91 (Tex. App. 2022, pet. ref’d) (concluding that defendant had abandoned his trash, so he had no standing to contest subsequent analysis of DNA found therein); *State v. Vannieuwenhoven*, 412 Wis. 2d 33, 54, 8 N.W.3d 63 (App.) (concluding that defendant did not have reasonable expectation of privacy in DNA profile after voluntarily giving envelope and its contents, including saliva, to law enforcement), review denied, 15 N.W.3d 27 (Wis. 2024); see also, e.g., *Raynor v. State*, supra, 440 Md. 74, 81–82 (explaining that defense counsel had conceded that warrantless swabbing of involuntarily shed biological material was lawful); *State v. Westrom*, 6 N.W.3d 145, 153–54 (Minn.) (operating on assumption, although not explicitly, that collection of biological material from discarded napkin was lawful), cert. denied, U.S. , 145 S. Ct. 418, 220 L. Ed. 2d 172 (2024).

individual’s abandonment of physical evidence does not necessarily mean that that individual abandoned expectation of privacy in deeply sensitive and personal information found in that physical evidence). For this reason, we rely on these cases only to the extent that they support the proposition that law enforcement can lawfully *collect* biological material from discarded items without a warrant. Our conclusion is not inconsistent with these cases but, rather, is simply narrower.

Accordingly, we conclude that the collection of DNA from the defendant's discarded belt was not a search under the fourth amendment.⁹

B

Analysis of the Lawfully Collected DNA

The defendant alternatively claims that, even if the police lawfully collected his DNA from the belt, the subsequent warrantless analysis of his DNA, even if solely for identification purposes, constituted a search under the fourth amendment. We disagree. For the reasons that follow, we conclude that, when the police analyze a person's DNA that was collected from a discarded item that is in the lawful possession of the police, that person does not have a reasonable expectation of privacy in the identifying information encoded in his or her DNA. Because the police in the present case analyzed the defendant's DNA only for identification purposes and used technology that was capable of testing only for that purpose, such analysis did not constitute a search under the fourth amendment.

We utilize the *Katz* framework to determine whether the analysis of the defendant's DNA only for identification purposes constituted a search. As we previously explained in this opinion, under the *Katz* framework, we must ask "whether the [person contesting the search] manifested a subjective expectation of privacy with respect to [the subject of the search]" and "whether that expectation [is] one that society would consider

⁹ If an individual had a reasonable expectation of privacy in the biological materials involuntarily or inadvertently shed on items discarded, then the police would need to obtain a warrant before they could lift or collect such materials at a crime scene, or at a public location, to comply with the fourth amendment. The United States Supreme Court has never indicated that such practice is required by the United States constitution. See, e.g., *Raynor v. State*, supra, 440 Md. 85, 87 (testing of fingerprints left unknowingly on surfaces in public places does not implicate protections of fourth amendment).

reasonable.” (Internal quotation marks omitted.) *State v. Jacques*, supra, 332 Conn. 279; see, e.g., *California v. Ciraolo*, supra, 476 U.S. 211–12. Even if we assume that the defendant had a subjective expectation of privacy in the identifying characteristics encoded in his DNA; see, e.g., *State v. DeFusco*, supra, 224 Conn. 633 n.9; we can predict with a reasonable degree of certainty that the United States Supreme Court would conclude that the testing of the defendant’s DNA, collected from a discarded item in the police’s lawful possession, for identification purposes only, did not constitute a fourth amendment search because the defendant did not maintain an objectively reasonable expectation of privacy in his identifying characteristics encoded therein.

The United States Supreme Court’s reasoning in *Maryland v. King*, 569 U.S. 435, 133 S. Ct. 1958, 186 L. Ed. 2d 1 (2013), gives us “a reasonable degree of certainty how [it] would resolve the issue” *State v. Purcell*, supra, 331 Conn. 334 n.11. In *King*, the court considered whether taking a buccal swab from the defendant and testing his DNA, without a warrant, as part of routine police booking procedures pursuant to the Maryland DNA Collection Act, violated the fourth amendment.¹⁰ See *Maryland v. King*, supra, 440–41. Although the court determined that swabbing the interior of the defendant’s cheek to collect DNA was a search, it also concluded that the search was reasonable under the fourth amendment. See *id.*, 446, 465–66. The court separately noted that the STR analysis used to test the defendant’s DNA “did not amount to a significant invasion of privacy that would render the DNA identification impermissible under the [f]ourth [a]mendment.”

¹⁰ The United States Supreme Court explained that this “[a]ct authorizes Maryland law enforcement authorities to collect DNA samples from ‘an individual who is charged with . . . a crime of violence or an attempt to commit a crime of violence; or . . . burglary or an attempt to commit burglary.’” *Maryland v. King*, supra, 569 U.S. 443.

Id., 465. This conclusion, and other aspects of the court’s analysis revealing its attitude toward STR testing, allows us to predict that it would conclude that STR testing of an individual’s DNA that was collected from a discarded item in the police’s lawful possession, for identification purposes only, does not constitute a fourth amendment search.

We begin with the court’s discussion in *King* on the limited nature of STR testing. The court explained that STRs are the “repeated DNA sequences scattered throughout the human genome” (Internal quotation marks omitted.) Id., 443. “The alternative possibilities for the size and frequency of these STRs at any given point along a strand of DNA are known as ‘alleles’ . . . and multiple alleles are analyzed in order to ensure that a DNA profile matches only one individual.” (Citation omitted.) Id. This method of testing, the court noted, has become nationally standardized though the creation of the CODIS database. See id., 444–45. The profiles in this database are “based on [thirteen] loci at which the STR alleles are noted and compared.” Id., 445. These loci come from the nonprotein coding regions of DNA that do “not show more far-reaching and complex characteristics like genetic traits” and that are useful only for identification purposes. Id., 442–43.

After providing this general background on STR testing, the court in *King* turned to the central issue in that case: whether the use of a warrantless buccal swab to take a DNA sample pursuant to the Maryland DNA Collection Act was impermissible under the fourth amendment. See id., 446. Although the buccal swab collection constituted a search; id.; the court did not apply the *Katz* reasonable expectation of privacy framework. Instead, it analyzed the constitutionality of the search by balancing the individual’s privacy interests against the legitimate interests of law enforcement. See id., 448.

Throughout its analysis, the court compared DNA identification to fingerprinting and photographic identification. See *id.*, 451–52, 456–61. It observed that “the only difference between DNA analysis and the accepted use of fingerprint databases is the unparalleled accuracy DNA provides.” *Id.*, 451. It further explained that, “[l]ike a fingerprint, the [thirteen] CODIS loci are not themselves evidence of any particular crime A DNA profile is useful to the police because it gives them a form of identification to search the records already in their valid possession. In this respect the use of DNA for identification is no different [from] matching an arrestee’s face to a wanted poster of a previously unidentified suspect . . . or matching the arrestee’s fingerprints to those recovered from a crime scene.” *Id.* With respect to STR testing and privacy interests, the court emphasized that “[t]he additional intrusion [on an] arrestee’s privacy beyond that associated with fingerprinting *is not significant*”; (emphasis added) *id.*, 459; and observed that the use of STR testing “is no more than an extension of methods of identification long used in dealing with persons under arrest.” (Internal quotation marks omitted.) *Id.*, 461. The court ultimately concluded that the use of a buccal swab was not an unreasonable search. See *id.*, 461–64.

After reaching this conclusion, the court separately addressed whether “the processing of [the defendant’s] DNA sample’s [thirteen] CODIS loci” intruded on his “privacy in a way that would make his DNA identification unconstitutional.” *Id.*, 464. The court acknowledged that the inquiry may change as science progresses but observed that the “alleles at the CODIS loci are not at present revealing information beyond identification.” (Internal quotation marks omitted.) *Id.* It further observed that, even if those alleles could reveal more information, it is notable that “they are not in fact tested for that end.” *Id.* Importantly, the court noted that, “[i]f

in the future [the] police analyze samples to determine, for instance, an arrestee’s predisposition for a particular disease or other hereditary factors not relevant to identity, that case would present additional privacy concerns not present here.” *Id.*, 464–65. The court then considered certain aspects of the Maryland DNA Collection Act that further limited any privacy concerns, namely, that no testing purpose other than identification was permissible under the act. See *id.*, 465. It concluded that, “[i]n light of the scientific and statutory safeguards, once [the defendant’s] DNA was lawfully collected the STR analysis of [the defendant’s] DNA pursuant to CODIS procedures did not amount to a significant invasion of privacy that would render the DNA identification impermissible under the [f]ourth [a]mendment.”¹¹ *Id.*

Taken together, we glean that STR analysis of DNA that has been collected from a discarded item in the police’s lawful possession, for identification purposes only, does not constitute a fourth amendment search. See, e.g., *Raynor v. State*, *supra*, 440 Md. 81–82, 96 (concluding that, when DNA sample is in police’s lawful possession, testing of thirteen identifying loci is not search for fourth amendment purposes); *State v. Wes-*

¹¹ Although we interpret this statement to support the conclusion that STR testing of DNA for identification purposes only does not constitute a search under the fourth amendment, we recognize that there is an alternative interpretation of this statement. Compare *State v. Westrom*, *supra*, 6 N.W.3d 153–55 (concluding that analysis of DNA is not search), with *People v. Moreaux*, 76 Misc. 3d 976, 993, 174 N.Y.S.3d 237 (2022) (concluding that analysis of DNA is not unreasonable search). The court in *King* could have meant that STR analysis of an arrestee’s DNA does constitute a fourth amendment search, albeit a reasonable one. We decline to adopt the latter interpretation. We think that the fourth amendment reasonableness test employed in *King* likely applies only in the custodial context and to the question of whether the bodily intrusion (the swabbing) to collect the DNA was reasonable, not to whether STR testing is a search under the fourth amendment. See *United States v. Hasbajrami*, Docket No. 1:11-cr-623 (LDH), 2025 WL 447498, *6 (E.D.N.Y. February 10, 2025), appeal filed (2d Cir. March 10, 2025) (No. 25-542).

trom, supra, 6 N.W.3d 153–55 (concluding that STR test of DNA sample in lawful possession of police, for identification purposes only, was not search); see also, e.g., *Commonwealth v. Arzola*, 470 Mass. 809, 820, 26 N.E.3d 185 (2015) (explaining that, when lawfully obtained DNA sample is analyzed for identification purposes only, that analysis is not search in constitutional sense), cert. denied, 577 U.S. 1061, 136 S. Ct. 792, 193 L. Ed. 2d 709 (2016). Although we acknowledge that certain aspects of the *King* analysis are specific to the custodial status of the defendant in that case, the United States Supreme Court’s discussion of STR testing and its limited nature, as well as the minimal privacy interest in the information encoded within the thirteen CODIS loci, was not unique to that context. Our conclusion is also consistent with Supreme Court jurisprudence that has held that individuals do not have an objectively reasonable expectation of privacy in certain identifying characteristics. See, e.g., *United States v. Dionisio*, 410 U.S. 1, 14–15, 93 S. Ct. 764, 35 L. Ed. 2d 67 (1973) (concluding that directive to provide voice exemplar was not search and recognizing that individuals do not maintain reasonable expectation of privacy in certain physical characteristics associated with identity, including facial features and fingerprints, due to constant exposure to public); see also, e.g., *Maryland v. King*, supra, 569 U.S. 477 (Scalia, J., dissenting) (suggesting that individuals do not have reasonable expectation of privacy in facial or other bodily features captured in photograph).¹²

¹² For this reason, we are not persuaded by the defendant’s argument regarding *United States v. Davis*, 690 F.3d 226 (4th Cir. 2012), cert. denied, 571 U.S. 829, 134 S. Ct. 52, 187 L. Ed. 2d 47 (2013), in which the court held that police testing of a reported crime victim’s DNA collected from lawfully seized clothing violates that victim’s reasonable expectation of privacy in his or her DNA. See *id.*, 246. The defendant’s argument in the present case rests on the assumption that “‘free person[s]’” have a reasonable expectation of privacy in the identifying characteristics that are encoded in their DNA. *Id.*, 244–45. But we conclude that that assumption is incorrect with regard to DNA testing for identification purposes.

Here, the defendant does not claim that the state tested his DNA for any purpose other than for identification. He argues, instead, that the state *could* have learned more than his identity, including “the most personal and intricate details of [his] existence.” See, e.g., *United States v. Amerson*, 483 F.3d 73, 85 (2d Cir.) (acknowledging “the vast amount of sensitive information that can be mined from a person’s DNA”), cert. denied, 552 U.S. 1042, 128 S. Ct. 646, 169 L. Ed. 2d 515 (2007). He contends that the distinction between what the police test for and what they could potentially discover is “constitutional[ly] significan[t]” and compels the conclusion that a constitutionally infirm search occurred here. To support this proposition, the defendant primarily cites to cases involving police searches of cell phones. See, e.g., *Carpenter v. United States*, 585 U.S. 296, 302, 311, 138 S. Ct. 2206, 201 L. Ed. 2d 507 (2018) (holding that government’s acquisition of 127 days of cell site location information without warrant was search that violated fourth amendment because it might reveal “familial, political, professional, religious, and sexual associations” (internal quotation marks omitted)); *Riley v. California*, 573 U.S. 373, 379, 396–97, 401, 134 S. Ct. 2473, 189 L. Ed. 2d 430 (2014) (holding that warrantless searches of cell phone that was seized incident to lawful arrest violated fourth amendment in part because cell phones contain “a broad array of [potentially discoverable] private information”); see also, e.g., *Birchfield v. North Dakota*, 579 U.S. 438, 463–64, 136 S. Ct. 2160, 195 L. Ed. 2d 560 (2016) (noting that blood alcohol tests implicate privacy concerns in part because police could store blood samples and extract information beyond blood alcohol concentration).

We are not persuaded that a warrantless search of a cell phone provides an appropriate analogy to DNA testing of a sample collected from a discarded item. It

is true that DNA samples, like cell phones, contain private information. But the analogy ends there. A warrantless search of a cell phone differs in material respects from the warrantless STR analysis of the defendant's DNA in this case. If the police search a defendant's cell phone without a warrant, nothing limits the police from obtaining "a broad array of private information," apart from self-imposed constraints. *Riley v. California*, supra, 573 U.S. 397. That is, in the absence of a warrant, there is no reliable safeguard precluding the police from searching through an individual's private information. In contrast, when the state forensic laboratory tested the defendant's DNA in this case, the same concern of learning private information was not present—the STR analysis *was not capable* of revealing more than the defendant's identity. See, e.g., *Maryland v. King*, supra, 569 U.S. 465 (describing STR analysis as "[a] scientific . . . safeguard"); see also, e.g., *State v. Westrom*, supra, 6 N.W.3d 153–55 (holding that defendant had no reasonable expectation of privacy when state conducted STR DNA analysis capable only of revealing identity). The laboratory used a specific DNA testing kit that allowed state forensic analysts to "know in advance" what type of information would be revealed. *Kyllo v. United States*, 533 U.S. 27, 39, 121 S. Ct. 2038, 150 L. Ed. 2d 94 (2001). The privacy concern raised in *Carpenter* and *Riley* about the police potentially discovering more information than they seek is therefore not present under the facts of this case.

Accordingly, in the present case, we conclude that the testing of the defendant's DNA, which had been collected from a discarded belt in the police's lawful possession, for identification purposes only, did not constitute a search under the fourth amendment. Had the DNA testing kit that the state forensic laboratory used been capable of revealing more than the defendant's identity—or had the test in fact revealed more

information—we would be confronted with additional privacy concerns not implicated here. See *Maryland v. King*, supra, 569 U.S. 464–65. As a result, we need not decide whether a DNA testing kit that tests for information beyond identity would be constitutionally infirm under the fourth amendment.¹³

We are also not persuaded by the defendant’s remaining arguments that raise concerns about the state’s use of technology and the privacy implications that future technological development may pose. Even if we assume that the DNA testing kits the state forensic laboratory used were not widely available to the public, as the defendant contends, that would matter only for fourth amendment purposes if the technology was capable of revealing information in which an individual has a reasonable expectation of privacy. See, e.g., *Kyllo v. United States*, supra, 533 U.S. 34–40. Furthermore, even if future technological advances in DNA testing allow the police to gather information beyond identity from the thirteen DNA loci that have historically been tested as part of an STR analysis, those advances are not implicated in this case. See, e.g., *Maryland v. King*, supra, 569 U.S. 464 (recognizing that technological “progressions may have [f]ourth [a]mendment consequences”). In this case, we decide only whether the defendant has a reasonable expectation of privacy in the identifying characteristics in his DNA that was collected from his discarded belt, which the police had lawfully obtained. We conclude that he does not. Accordingly, the warrantless STR analysis of the defendant’s DNA for identification purposes only did not violate the fourth amendment.

II

We next consider the defendant’s claim that the warrantless testing of his DNA, which was collected from

¹³ During oral argument, however, the prosecutor conceded that DNA testing capable of revealing more than identifying characteristics would require a warrant.

his discarded belt while it was in the police’s lawful possession, for identification purposes only, violated his right to privacy under article first, § 7, of the Connecticut constitution. The defendant argues that the factors set forth in *State v. Geisler*, supra, 222 Conn. 684–85, establish that article first, § 7, affords greater protection under these circumstances than the fourth amendment. We disagree.

To “determin[e] the contours of the protections provided by our state constitution, we employ a multifactor approach that we first adopted in [*Geisler*].” (Internal quotation marks omitted.) *State v. Bemmer*, 339 Conn. 528, 555–56, 262 A.3d 1 (2021). The “six factors are (1) persuasive relevant federal precedents, (2) the text of the operative constitutional provisions, (3) historical insights into the intent of our constitutional forebears, (4) related Connecticut precedents, (5) persuasive precedents of other state courts, and (6) . . . relevant public policies.” *State v. Patel*, 342 Conn. 445, 466, 270 A.3d 627, cert. denied, U.S. , 143 S. Ct. 216, 214 L. Ed. 2d 86 (2022).

As our discussion in part I of this opinion demonstrates, the relevant federal precedents support the state’s position. The defendant argues that the second factor—the constitutional text—supports his position. He correctly points out that this court in *State v. Bemmer*, supra, 339 Conn. 528, has concluded that, as a general matter, “article first, § 7, is more protective of the privacy rights of our citizenry than the fourth amendment.” *Id.*, 557; see, e.g., *State v. Geisler*, supra, 222 Conn. 690 (in contrast to fourth amendment exclusionary rule, “article first, § 7 requires that evidence derived from an unlawful warrantless entry into [a] home be excluded unless the taint of the illegal entry is attenuated by the passage of time or intervening circumstances”); *State v. Marsala*, 216 Conn. 150, 171, 579 A.2d 58 (1990) (unlike fourth amendment exclusionary rule, “a good

faith exception . . . does not exist under [article first, § 7, of the state constitution]”). But the analysis in *Bemer* pertained to the fourth *Geisler* factor—relevant Connecticut precedent—rather than the second factor. Regarding the constitutional text itself, we have concluded that, because “article first, § 7 [of the state constitution] . . . is similar to the text of the fourth amendment [to the federal constitution], that consideration alone provides no reason to depart from the interpretation of the federal constitution by the United States Supreme Court.” *State v. Bemer*, supra, 556. Compare U.S. Const., amend. IV (“[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized”), with Conn. Const., art. I, § 7 (“[t]he people shall be secure in their persons, houses, papers and possessions from unreasonable searches or seizures; and no warrant to search any place, or to seize any person or things, shall issue without describing them as nearly as may be, nor without probable cause supported by oath or affirmation”). Despite the slight linguistic differences between the two constitutional provisions, we continue to agree with our prior case law that the text of article first, § 7, of the Connecticut constitution does not provide a basis to conclude that that provision affords greater protection than the fourth amendment to the federal constitution under these circumstances.

As to the third factor, the defendant argues that a general concern for the “security of our body and limbs” expressed by Connecticut’s founding members indicates that they would not have tolerated warrantless testing of DNA for identification purposes. 1 Z. Swift, *A System of the Laws of the State of Connecticut* (1795)

p. 179; see also *id.*, p. 177 (arguing that Connecticut law recognizes “right of personal security,” which “consists in a man’s having the peaceable enjoyment of life, limbs, body, health, and reputation”). We are not persuaded that testing DNA that was collected from a discarded item implicates the right to the “security of our body and limbs” *Id.*, p. 179. Even if we assume that it does, we do not think that “the historical circumstances surrounding the adoption of article first, § 7,” of the Connecticut constitution are particularly helpful here because “the reasonable expectation of privacy analysis is peculiarly focused on current conditions and requires a factual inquiry into all the relevant circumstances of the search.” *State v. DeFusco*, *supra*, 224 Conn. 635.

Regarding the fourth factor, the defendant contends that our decision in *State v. Joyce*, 229 Conn. 10, 639 A.2d 1007 (1994), weighs in favor of his position that article first, § 7, provides greater protection than its federal counterpart in this context. We disagree. In *Joyce*, an emergency medical technician had cut off the defendant’s clothing and transported him to the hospital so that he could be treated for severe burns. *Id.*, 12–13. The police lawfully retrieved the defendant’s discarded clothing from the scene pursuant to their community caretaking function. *Id.*, 14. Once the defendant became a suspect for arson, his discarded clothing was delivered to the state forensic laboratory for chemical testing. See *id.* Acting without a warrant, a forensic analyst conducted a gas chromatography analysis, which detected the presence of gasoline. See *id.*, 14–15. But the analyst also testified that the gas chromatography analysis used was capable of revealing—and did reveal—the presence of other “organic material in the defendant’s underwear that was not an accelerant.” *Id.*, 24 n.16. Because the testing method indiscriminately detected this “organic material” and, in doing so, “expos[ed] rather private

facts”; *id.*; this court concluded that the warrantless search violated article first, § 7, of the Connecticut constitution. See *id.*, 24, 27.

In the present case, unlike in *Joyce*, the defendant does not contest that the police lawfully obtained his belt and concedes that he had no reasonable expectation of privacy in it. In addition, the state forensic laboratory used an STR DNA test, which—unlike the gas chromatography analysis in *Joyce*—was capable of revealing only the defendant’s identity. Accordingly, our holding in *Joyce* does not support the conclusion that article first, § 7, affords greater protection than the fourth amendment under these circumstances.

The defendant also argues that, regardless of our holding in *Joyce*, this court has expressed “a strong policy in favor of warrants” (Internal quotation marks omitted.) *State v. Kono*, 324 Conn. 80, 113, 152 A.3d 1 (2016). In *Joyce*, we concluded that, “[u]nder the state constitution, all warrantless searches, [regardless of whether] the police have probable cause to believe that a crime was committed, are per se unreasonable, unless they fall within one of a few specifically established and well delineated exceptions to the warrant requirement.” *State v. Joyce*, *supra*, 229 Conn. 24–25. We continue to agree with the principles articulated in *Joyce* and reiterate this state’s strong policy in favor of a search warrant in situations in which the defendant has a reasonable expectation of privacy in the subject of a search, or in what the police could discover through indiscriminate testing methods. But “[a] search . . . occurs [only] when a reasonable expectation of privacy is infringed.” (Internal quotation marks omitted.) *Bozrah v. Chmurnyński*, 303 Conn. 676, 684, 36 A.3d 210 (2012); see also, e.g., *State v. Houghtaling*, 326 Conn. 330, 341, 163 A.3d 563 (2017), cert. denied, 584 U.S. 949, 138 S. Ct. 1593, 200 L. Ed. 2d 776 (2018). Accordingly, the collection of the defendant’s DNA from his dis-

carded belt, which was within the police's lawful possession, and the subsequent testing of the DNA for identification purposes only did not trigger our policy preference for a warrant.

As to the fifth factor, state courts that have considered the question before us have uniformly concluded that, under the fourth amendment, individuals have no reasonable expectation of privacy in DNA that has been collected from a discarded item in the police's lawful possession, so long as it is tested solely for identification purposes. See, e.g., *People v. Gallego*, supra, 190 Cal. App. 4th 397 (testing of DNA collected from discarded cigarette); *State v. Burns*, supra, 988 N.W.2d 364–65 (testing of DNA collected from discarded straw); *Raynor v. State*, supra, 440 Md. 82, 85 (testing of DNA collected from chair); *State v. Westrom*, supra, 6 N.W.3d 153–55 (testing of DNA collected from discarded napkin); *State v. Athan*, 160 Wn. 2d 354, 373–74, 387, 158 P.3d 27 (2007) (testing of DNA extracted from discarded saliva).¹⁴ Accordingly, we conclude that this factor militates in the state's favor.

Finally, with respect to *Geisler*'s sixth factor, the defendant and the amicus, the Connecticut Criminal Defense Lawyers Association, argue that public policy supports affording greater protection under article first, § 7, of the Connecticut constitution. They claim that, if this court concludes that Connecticut residents have no right to privacy in their DNA, the police will have unregulated discretion to test and store DNA for any purpose. The defendant lists a parade of horrible outcomes that could occur, including the possibility that the police would create a “racial genetic map” to “identify race-based genetic variation among sex offenders or

¹⁴ State courts that have considered whether individuals have a reasonable expectation of privacy under their respective state constitutions have concluded that they do not. See, e.g., *State v. Burns*, supra, 988 N.W.2d 365; *State v. Athan*, supra, 160 Wn. 2d 366–67, 372, 387.

violent felons.” E. Joh, Essay, “Reclaiming ‘Abandoned’ DNA: The Fourth Amendment and Genetic Privacy,” 100 Nw. U. L. Rev. 857, 878 (2006). The amicus also contends that, if we do not recognize a right to privacy in one’s DNA, “law enforcement can hold onto an isolated DNA sample for as long as it deems necessary,” and the indefinite retention of someone’s DNA profile would violate the fourth amendment.

We agree with the state that the policy arguments of the defendant and the amicus concern issues that are not present in this case. We reiterate that the defendant has not claimed that the STR analysis revealed anything more than his identity, or that it was capable of doing so. Nor did the defendant assert that the state’s storage of his DNA violated the fourth amendment. The defendant also did not contend that the earlier, single nucleotide polymorphism (SNP) profile developed by Bode Technology, which formed the basis of the state’s investigative leads, violated the fourth amendment. See footnote 4 of this opinion. Nonetheless, we acknowledge the arguments of the defendant and the amicus that DNA testing could implicate significant privacy concerns in other circumstances. Like the United States Court of Appeals for the Second Circuit, “[w]e are mindful of the vast amount of sensitive information that can be mined from a person’s DNA and the very strong privacy interests that all individuals have in this information.” *United States v. Amerson*, supra, 483 F.3d 85. Nevertheless, because the DNA testing in this case did not implicate those interests, we cannot conclude that the defendant’s speculative policy concerns should inform our analysis of whether he had a reasonable expectation of privacy under the facts of this case. Because the weight of the *Geisler* factors does not compel this court to conclude that the state constitution affords greater protection than the federal constitution under these circumstances, we conclude that a search

did not occur under article first, § 7, of the Connecticut constitution. See, e.g., *Maryland v. King*, supra, 569 U.S. 452 (reasoning that identifying characteristics in DNA “function . . . the same” as “a name or fingerprint,” in which people have no reasonable expectation of privacy).

We conclude that article first, § 7, of the Connecticut constitution does not afford greater protection than the fourth amendment to the United States constitution under these circumstances. Accordingly, the testing of the defendant’s DNA from the discarded belt for identification purposes did not violate his state constitutional right because the state used an STR test capable of revealing only his identity.

III

We next consider the defendant’s claim that the trial court misled the jury by providing a flowchart as a guide to its jury instructions because the chart omitted the factors from *State v. Salamon*, supra, 287 Conn. 548. The defendant contends that, as a result of the omission, “the jurors could have found that the defendant [had] confined the [women], without ascertaining if he [had] intended to restrain them in excess of what was necessary to commit the other crimes: sexual assault, burglary, and robbery.” The defendant further contends that the state cannot show that the flowchart’s omission was harmless beyond a reasonable doubt. The state argues that the flowchart did not mislead the jury because the trial court included the *Salamon* factors in its instructions and informed the jury that the flowchart was not a substitute for the instructions. The state further claims that, even if the flowchart itself was misleading, it was harmless beyond a reasonable doubt. We agree with the state that the flowchart did not mislead the jury.

The following additional facts and procedural history are relevant to our analysis. Prior to closing arguments, the trial court discussed the proposed jury instructions with the parties. The court informed the parties that the discussion of the *Salamon* factors began on page 58 of the proposed jury instructions. Defense counsel did not object to that instruction. After giving the parties one day to review the proposed instructions, the court asked whether the parties “wish[ed] to bring [anything] to the court’s attention.” Defense counsel replied “[n]o, Your Honor.” After closing arguments, the court announced that it planned to provide a flowchart to the jury to outline the elements of the kidnapping charges. Defense counsel objected, arguing that, although nothing in the flowchart was inaccurate, it did not include the *Salamon* factors. The court offered to put them in, but the prosecutor objected on the ground that the jury instructions already included the *Salamon* factors. After considering the parties’ arguments, the court decided not to include the *Salamon* factors in the flowchart. The court reasoned that it would convolute the flowchart, and it planned to inform the jury that it was simply a “visual” guide and not a substitute for the court’s instructions.

The trial court proceeded to read the 143 pages of instructions to the jury. The court provided a full description of the *Salamon* factors in its instruction on the first count.¹⁵ The court incorporated its *Salamon*

¹⁵ The trial court provided the following instructions to the jury: “To establish the defendant’s intent to prevent the liberation of [the complainant], independent from the intent to violate or abuse her sexually, the state must prove that the defendant intended to prevent the complainant’s liberation for a longer time or to a greater degree than that which would be necessary to sexually abuse her. In this regard, the defendant’s intent to prevent the complainant’s liberation may be manifested by confinement or movement that is more than merely incidental to the other intended acts. In other words, if the confinement or movement is so much a part of the other conduct that it could not be accomplished without such restraint, then the requisite intent to prevent the complainant’s liberation has not been established. There is, however, no minimal period of confinement or degree of movement necessary to establish kidnapping.

instruction by reference for each of the remaining counts. The court later dismissed the jury for the evening. The court realized, however, that it “forgot” to provide the flowchart to the jury. When the jurors returned the next day, the court distributed the flowchart to them. The court informed them that the flowchart was only an “aid” and that it “in no way replaces the instructions.” The court concluded its formal instructions by informing the jurors that they “are to look to the instructions of law that [the court] give[s] [them] in order to make [their] decision.”

We begin with the standard of review and guiding legal principles. In reviewing claims of instructional error, it is well established that “we examine the [trial] court’s entire charge to determine whether it is reasonably possible that the jury could have been misled [I]ndividual jury instructions should not be judged in artificial isolation, but must be viewed in the context of the overall charge. . . . The pertinent test is whether the charge, read in its entirety, fairly presents the case to the jury in such a way that injustice is not done to either party under the established rules of law. . . . Thus, [t]he whole charge must be considered from the standpoint of its effect on the [jurors] in guiding them to the proper verdict” (Citation omitted; internal quotation marks omitted.) *State v. Ward*, 306 Conn. 718, 747, 51 A.3d 970 (2012). We presume that a jury follows the trial court’s instructions unless a

“Whether the movement or confinement of the complainant is merely incidental to other conduct is a question of fact for you to determine. In determining this, you may consider all the relevant facts and circumstances of the case, including, but not limited to, the following factors: the nature and duration of the complainant’s movement or confinement by the defendant, whether that movement or confinement occurred during the commission of other conduct, whether the restraint was inherent in the nature of the other conduct, whether the restraint prevented the complainant from summoning assistance, whether the restraint reduced the defendant’s risk of detection, and whether the restraint created a significant danger or increased the complainant’s risk of harm independent of that posed by the other conduct.”

challenging party can show “that the jury failed or declined” to do so. *State v. Reynolds*, 264 Conn. 1, 131, 836 A.2d 224 (2003), cert. denied, 541 U.S. 908, 124 S. Ct. 1614, 158 L. Ed. 2d 254 (2004); see also, e.g., *Hickey v. Commissioner of Correction*, 329 Conn. 605, 622–23, 188 A.3d 715 (2018).

In *Salamon*, we overruled our long-standing interpretation of this state’s kidnapping statutes, “under which a person who restrains another person with the intent to prevent that person’s liberation may be convicted of kidnapping even though the restraint involved in the kidnapping is merely incidental to the commission of another offense perpetrated against the victim by the accused.” *State v. Salamon*, supra, 287 Conn. 513. We did so to ensure that our case law reflected the legislative intent to replace the older, “broadly worded kidnapping provision with a graduated scheme that distinguishes kidnappings from unlawful restraints by the presence of an intent to prevent a victim’s liberation, intended to exclude from the scope of the more serious crime of kidnapping and its accompanying severe penalties those confinements or movements of a victim that are merely incidental to and necessary for the commission of another crime against that victim. Stated otherwise, to commit a kidnapping in conjunction with another crime, a defendant must intend to prevent the victim’s liberation for a longer period of time or to a greater degree than that which is necessary to commit the other crime.” *Id.*, 542. Consistent with this understanding of the statutory scheme, we identified six factors for juries to consider: “the nature and duration of the victim’s movement or confinement by the defendant, whether that movement or confinement occurred during the commission of the separate offense, whether the restraint was inherent in the nature of the separate offense, whether the restraint prevented the victim from summoning assistance, whether the restraint reduced the

defendant's risk of detection and whether the restraint created a significant danger or increased the victim's risk of harm independent of that posed by the separate offense." *Id.*, 548.

The defendant concedes that the trial court included the *Salamon* factors in its instructions to the jury but argues that the jury was nonetheless misled because it very likely relied on the one page flowchart, rather than the instructions, in reaching its verdict. The defendant contends that, because the trial court forgot to provide the flowchart prior to reading the instructions, the flowchart no longer served its purpose when provided alongside the written instructions.

In support of this claim, the defendant cites *State v. Breton*, 235 Conn. 206, 663 A.2d 1026 (1995). In *Breton*, this court concluded that the trial court's ambiguous special verdict form and instructions to the jury on how to complete the form were clearly flawed because they allowed the court to impose the death penalty on the defendant in accordance with the jury's verdict of guilty of capital felony, even if the jury did not unanimously find that "the defendant failed to prove the existence of each and every mitigating factor by a preponderance of the evidence." *Id.*, 236–38; see also *id.*, 215. The defendant argues that the trial court here similarly created an ambiguity for the jurors about whether they needed to consult the *Salamon* factors at all because the flowchart was not provided to them to consult while the court read the instructions. We are not persuaded. After providing the jurors with the flowchart, the trial court clearly and expressly instructed them that it was an "aid," that it did not replace the instructions, and that they should "look to the instructions of law that [the court gave them] in order to make [their] decision." The defendant's argument that the flowchart was ambiguous assumes that the jury did not heed the court's instructions regarding the *Salamon* factors or

the instructions regarding the purpose of the flowchart. Because the defendant has not proffered evidence demonstrating that the jury had failed to follow the trial court's instructions regarding the *Salamon* factors and the flowchart, we presume that the jury heeded those instructions. See, e.g., *State v. Reynolds*, supra, 264 Conn. 131; see also, e.g., *Hickey v. Commissioner of Correction*, supra, 329 Conn. 622–23. Accordingly, we conclude that there is no reasonable possibility that the jury was misled by the omission of the *Salamon* factors from the flowchart.

The judgment is affirmed.

In this opinion MULLINS, C. J., and ALEXANDER and DANNEHY, Js., concurred.

D'AURIA, J., with whom ECKER, J., joins, concurring in part and dissenting in part. I agree with part II of the majority opinion concerning the trial court's jury instructions, but I disagree with part I. That part ratifies the constitutionality of the warrantless collection, testing, and storage of the DNA of the defendant, Michael Sharpe, which he involuntarily shed onto an article of clothing that the police then asked his trash collection company to deliver to them as part of their criminal investigation. At that time, the government did not have enough evidence to arrest or prosecute him for a crime, making him indistinguishable from anyone else living freely in our society. I therefore dissent from the affirmance of the defendant's conviction.

I do not believe it is just my own idealistic reminiscence that there was a time, during my own lifetime, when individuals could travel across town—or even across this country—and it would be no one's business, certainly not the government's. Another person could describe them, or, if he knew them personally, he might be able to identify them to a degree of certainty. See *State v. Guilbert*, 306 Conn. 218, 237–39, 49 A.3d 705 (2012) (identifications are not always reliable). But, unless they were suspected of a crime, they were free to roam anonymously on streets and highways, and through parks and shopping centers. See, e.g., M. McIntyre, *The Kindness of Strangers: Penniless Across America* (Berkeley Books 1996); R. Pirsig, *Zen and the Art of Motorcycle Maintenance: An Inquiry into Values* (William Morrow & Co. 1974). The ability to remain anonymous, or, in other words, “the right to be let alone”; S. Warren & L. Brandeis, “The Right to Privacy,” 4 Harv. L. Rev. 193, 193 (1890); has long been a characteristic of life in this nation—and it is unsurprising, therefore, that it has underpinned many of the privacy protections our law affords. See A. Kozinski, Essay, “The Two Faces of Anonymity,” 43 Cap. U. L. Rev. 1, 7 (2015) (“[a]nonymity has venerable

historical roots in political, religious, and social revolutions”).

I am well aware that, with the arrival of innumerable technological advances that define the modern world, there is arguably already little left of the right to be left alone: “[A]side from the [United States National Security Agency], there are many other eyes watching what we do: phone companies can log whenever we connect to cell towers and thereby keep close track of our movements; [radio frequency identification] chips in Fast-Trak devices can provide a map of our travels by car; the government is amassing an ever-increasing supply of DNA samples in the CODIS¹ database, as state and federal governments widen the scope of who is subject to DNA typing. A company called ‘PlateNet,’ using a fleet of cars that roam the streets scanning license plates, has created a giant police-accessible database to store the location and movement of millions of vehicles. Cities like London have developed ubiquitous networks of cameras that record the public movements of thousands of people every hour. Face-recognition and gait-decoding technologies capable of recording the whereabouts of large throngs of people are used in many places abroad and are starting to be deployed by law enforcement in the United States. ‘Smart meters’ installed in millions of American homes can record and divulge exactly which home appliances an occupant is using based on the distinct energy consumption pattern of each device. And, of course, companies such as Google, Facebook and Double Click are constantly tracking our online presence.” (Footnotes added.) *Id.*, 14–15; see also L. Donohue, “The Fourth Amendment in a Digital World,” 71 N.Y.U. Ann. Surv. Am. L. 553, 554 (2017) (“[t]raits unique to a digital world are breaking down the distinctions on which the [United States Supreme]

¹ See footnote 2 of the majority opinion.

Court has traditionally relied to protect individual privacy”).

In large part, this loss of privacy can be understood as volitional. We have traded liberty and privacy for security, walking through body scanners in places like airports and sports arenas. We have traded privacy for convenience, speaking to smart devices in our homes that may surreptitiously sell every word we speak to advertisers or that track our movements so we can avoid traffic or keep track of the restaurants we’ve sampled. We have traded privacy for money, permitting credit card companies and vendors to track our financial habits in exchange for coupons and redeemable points. Some have even traded privacy for novelty, shipping their saliva to third parties to learn about their ancestry, the likelihood of developing particular medical conditions, or even trivial matters such as whether they are predisposed to dislike the taste of cilantro. Many of these trades are consensual, meaning that people may opt out. Yet, at least some of the trades necessary to participate in modern society, such as cell phones, have continued to garner privacy protections under our law. See, e.g., *Carpenter v. United States*, 585 U.S. 296, 316, 138 S. Ct. 2206, 201 L. Ed. 2d 507 (2018) (declining to permit government to use cell site location information logs to aid criminal investigations without first obtaining search warrant to access such records); see also S. Brown, “Unreasonable Searches: Something of the Past,” 49 Nova L. Rev. 24, 24 (2025) (“One does not have to look far for the enemy that will likely kill the [f]ourth [a]mendment. Just reach into your pocket and pull out your cell phone, that is, if it is not already in your hand”).

Still, I do not believe, as the majority does, that we have come to a point where our society does not recognize (and therefore that our courts need not protect) a reasonable privacy interest in the extraction and anal-

ysis of an individual's shed DNA sample, collected by the government as part of a criminal investigation to identify that individual, without the need for that person's consent, a level of suspicion, or a neutral magistrate's approval. This case poses in stark relief not only the question of who decides when that expectation of privacy has become unreasonable, but on what the court bases that determination. Our courts are still tasked with measuring an individual's *reasonable* expectation of privacy, the violation of which, by the government, constitutes a search requiring a legal justification. If, as the majority has concluded, society has already decided that it is objectively unreasonable for the residents of this state to maintain an expectation of privacy in the extraction and analysis of their DNA sample, taken for identification purposes, I (and I believe many others) must have missed the memo.

By the majority's reasoning, given that the government did not have probable cause to search the defendant when it scoured his garbage to collect his DNA, it does not matter whether the government collects that shed DNA sample from leftover food, a child's diaper, or a handkerchief that someone forgot at a restaurant. It does not matter whether the government stored that DNA sample for an indeterminate amount of time. It does not matter that the police lacked probable cause to arrest you for a crime. Strangely enough, in fact, in Connecticut, if you *have* been arrested or have been convicted of most crimes, including sexual assault in the second degree or sexual assault in the third degree, the government *does not have* the statutory authority to extract, test, or store your DNA for identification purposes. See General Statutes §§ 54-102g through 54-102j. Yet, I find nothing in this court's decision that prevents or limits the government, in the name of crime solving (euphemistically labeled as mere "identifica-

tion”), from extracting and testing the DNA of individuals within Connecticut with impunity.

I am unpersuaded by the state’s assurances—repeated persistently by the majority—that the specific DNA test purchased and used by the state in this case can reveal only the defendant’s identity. Like the fourth amendment’s requirements and the case law applying them, I read article first, § 7,² of our state constitution as permitting—indeed, requiring—me to be skeptical of those assurances. Nor am I persuaded that the government’s interest in anyone’s identity for purposes of crime solving (i.e., matching it to another DNA sample from a crime scene) is an interest that permits the state to skirt the constitutional warrant requirement. But even if I were, I am still unpersuaded that individuals have no expectation of privacy in the identifying information gleaned from the state’s extraction and testing of their DNA under article first, § 7, considering that Connecticut’s legislature (our local “laboratory of democracy”) has already indicated that individuals charged with and convicted of certain crimes have a privacy interest in the extraction, testing, and storage of their DNA. Further, our case law and that of federal courts support my belief that Connecticut residents maintain a privacy interest in the extraction and testing of their shed DNA. Because I believe that article first, § 7, preserves, and Connecticut residents therefore enjoy, a reasonable expectation of privacy in the identifying information gleaned from the extraction and testing of their DNA, as well as its subsequent storage by the state, I believe, too, that this court should hold the line and not open the door to what I foresee as the inevitable

² Article first, § 7, of the Connecticut constitution provides: “The people shall be secure in their persons, houses, papers and possessions from unreasonable searches or seizures; and no warrant to search any place, or to seize any person or things, shall issue without describing them as nearly as may be, nor without probable cause supported by oath or affirmation.”

“ ‘function creep’ ” that the majority has green lighted with today’s decision. T. Simoncelli & B. Steinhardt, “California’s Proposition 69: A Dangerous Precedent for Criminal DNA Databases,” 34 J.L. Med. & Ethics 199, 203 (2006); see id. (“databases created for one discrete purpose, despite the initial promises of their creators, eventually take on new functions and purposes”).

Those among us who, before today, believed that our state constitution could not possibly permit—and that this court would not possibly tolerate—our state government, without probable cause, to follow individuals, collect DNA samples as they shed them, and create DNA profiles that will be stored indefinitely, without having to justify these actions by any level of suspicion or cause, should brace themselves for disappointment. Those who shudder at the unnerving public policy consequences of the majority’s decision today would be well advised to petition their elected leaders for protection from these invasions of privacy. They are now on notice that this court will not afford them protection, despite its obligation, “as ‘[s]ubtler and more far-reaching means of invading privacy have become available to the [g]overnment’—to ensure that the ‘progress of science’ does not erode” constitutional privacy protections, particularly when that scientific progress intersects with the necessities of everyday life, such as using cell phones, or, as it happens, leaving DNA on your trash. *Carpenter v. United States*, supra, 585 U.S. 320, quoting *Olmstead v. United States*, 277 U.S. 438, 473–74, 48 S. Ct. 564, 72 L. Ed. 944 (1928) (Brandeis, J., dissenting).³ Considering that, in the law, as in life, “what’s past is prologue,” I believe that, by permitting the government to extract and analyze any person’s shed DNA,

³ Justice Brandeis in *Olmstead* and Chief Justice Roberts in *Carpenter* were referring to fourth amendment protections. I have no trouble making the same observations about article first, § 7.

at any time, without the need to provide any justification, the majority has set the stage for further intrusions on the privacy of Connecticut residents. The majority is confident that it has not set this stage. One of us will be wrong. I hope it's me.

I respectfully dissent.

I

The following undisputed facts are relevant to my disagreement with the majority. The record supports the jury's finding that, during the summer of 1984, the defendant sexually assaulted four women on four separate occasions after breaking into their homes. The police collected evidence from each crime scene, which revealed the presence of unidentifiable semen and saliva. According to a former criminalist with the state forensic laboratory who testified for the state in this case, at the time of the crime, "forensic DNA as we know it today" did not exist. Nearly twenty years later, in 2003, the state forensic laboratory extracted and tested DNA from that evidence, created DNA profiles from it and concluded that the DNA most likely came from a single assailant. After almost another twenty years, in 2020, the Office of the Chief State's Attorney contracted with a private, third-party forensic investigation company, which provided it with two investigative leads based on the DNA profiles established in 2003, which were then shared with the state police. More specifically, as the majority describes, that company used "single nucleotide polymorphism . . . testing to create a DNA profile, which was entered into GED-match [by a genealogist], a commercial genealogical database . . . [that allowed the company] to create a family tree that identified the investigative leads that [it had] provided to the state in 2020." Footnote 4 of the majority opinion. Because "[i]t was highly unlikely [that the police] could have knocked on [a person's]

door and asked a potential subject for his DNA,” the police “devised a plan” to obtain DNA samples from the two initial leads identified by the third-party company, the defendant’s half brothers, by deception or persistent surveillance. They asked the first lead to sign a fictitious petition with a pen. They then extracted a DNA sample from that pen and tested it to create a DNA profile. The police obtained the second lead’s DNA by following him as he drove his car until they observed him tossing a cigarette butt from the car window. They collected the cigarette butt, extracted a DNA sample, and tested that sample to create a second DNA profile. Because neither leads’ DNA profile matched the DNA profile from the 1984 crime scenes, the third-party company provided the police with two additional leads: the defendant and his brother. The police asked the defendant’s brother to sign a fictitious form with a pen, from which they then extracted a DNA sample and tested that sample to create a DNA profile. Once again, this third lead’s shed DNA did not match the evidence from the 1984 crime scene. Finally, the police asked a local trash company to conduct a “trash pull,” resulting in the collection of trash deposited at the curb in front of the defendant’s house. The police then “inventor[ied] the material that was in the garbage can” and extracted DNA found on items that they believed, although they did not have “a hundred percent certain[ty],” might contain the defendant’s DNA. Those items included two belts, a fork, an auto-inject pen for medical purposes, and a catheter. Because “two other individuals . . . lived in the house” with the defendant, the police were not certain that the items they collected from the trash actually belonged to him. After extracting DNA samples from these items, the state tested those samples to create a DNA profile for the defendant to compare with the DNA profile from the evidence collected at the 1984 crime scenes. The record is unclear whether the other

items seized, including the medical equipment, belonged to the defendant or to other individuals living in the home. It is also unclear what happened to the DNA samples drawn from those items. The state, using the shed DNA collected from one of the defendant's belts, matched his DNA profile with the DNA profile from the evidence collected at the 1984 crime scenes. The police then sought and obtained a warrant to extract and test a confirmatory sample of the defendant's DNA, which affirmed the previous matching result. The state then charged the defendant with eight counts of kidnapping in the first degree, and a jury found him guilty on each count.

On appeal, the defendant argues that the warrantless extraction and testing of his DNA constituted an unreasonable invasion of his privacy under article first, § 7, of the Connecticut constitution and the fourth amendment to the United States constitution. Although the majority begins and focuses its analysis on the defendant's federal claim because, in its view, “‘we can predict to a reasonable degree of certainty how the United States Supreme Court would resolve the issue’ . . . and it is more efficient to address the defendant's claim under the federal constitution first”; (citation omitted) part I of the majority opinion; I address the defendant's state constitutional argument first because I do not believe that the federal law on this issue is settled. See, e.g., *State v. Kono*, 324 Conn. 80, 123, 152 A.3d 1 (2016) (this court “turn[s] first to the state constitutional claim when the issue is unsettled under the federal constitution or, if it is settled under the federal constitution, when the defendant is not entitled to relief thereunder”). Because I conclude that the defendant is correct that our state constitution protects him from the warrantless extraction and testing of his DNA from an object lawfully collected by the police, I do not address the federal constitutional issue, except to the extent

that an examination of federal law is appropriate when considering the defendant's state constitutional claim.

II

At the outset, I note my disagreement with the majority's framing of the legal issue before us. Although the majority at first properly recites the fundamental inquiry before the court—whether the defendant's subjective expectation of privacy in the DNA⁴ that “he involuntarily or inadvertently shed onto the belt”; part I A of the majority opinion; is one that society would deem reasonable—that marks the end of my agreement with the majority's framing of the issue in this case. I believe that the majority has blurred several legal questions and key factual determinations, permitting it to avoid altogether actually addressing what I see as the fundamental inquiry in this case. First, the majority obscures what, precisely, society would recognize as reasonable regarding the collection and analysis of the defendant's shed DNA. Next, premised on the first point, the majority conflates the defendant's abandonment of his belt with his abandonment of his DNA. Further, it erroneously equates the state's interest in identifying the defendant with its interest in investigating the defendant. Finally, it inaccurately portrays what the test kit used in this case could reveal.

A

The majority breezes past any proper analysis of what *society* would deem reasonable, asserting with misplaced confidence that, “[a]s some courts and scholars have recognized, society is generally aware that people shed biological materials that the police may later use for the purpose of identifying a suspect” Part I

⁴ I infer the defendant's subjective expectation of privacy in his DNA based on the lack of any indication otherwise and the prosecutor's acknowledgment during the defendant's trial that “[i]t was highly unlikely we could have knocked on his door and asked a potential suspect for his DNA.”

A of the majority opinion. At the same time, the majority hedges, noting that the cases it relies on for this conclusion do not consider whether “an individual may maintain a reasonable expectation of privacy in all of the other genetic information [aside from identifying information] encoded [in DNA]”; footnote 8 of the majority opinion; and therefore, it is possible that the defendant in this case holds some reasonable expectation of privacy in the *rest* of his shed DNA—just not the parts that benefit the state in this case. There are at least two problems with this analysis.

To start, the majority contends that it is commonly accepted that the police may scour the garbage of anyone—and therefore everyone—to extract and analyze DNA from items people have touched based on the fact that television often depicts the police using DNA in criminal investigations, i.e., “‘the CSI effect’” (Footnote omitted.) L. Matejik, “DNA Sampling: Privacy and Police Investigation in a Suspect Society,” 61 Ark. L. Rev. 53, 80 (2008). The “courts and scholars” the majority cites in support of this claim warrants examination, namely, one law review article and two out-of-state cases that do not support the assertion at all. See part I A of the majority opinion. Citing no sources to support a conclusion that constitutes the majority’s foundational premise in the present case—that there is no reasonable expectation of privacy in shed DNA—the law review article declares that “[s]ociety knows about DNA and its capabilities through television and other media. Furthermore, the use of DNA analysis is one click away on the Internet. People can perform DNA tests from their homes, and third parties can obtain the DNA of other individuals without restraint.” L. Matejik, *supra*, 78; Law review articles that go the other way are plentiful, however, concluding that there is a reasonable expectation of privacy in an individual’s shed DNA. See, e.g., E. Joh, Essay, “Reclaiming ‘Abandoned’ DNA: The

Fourth Amendment and Genetic Privacy,” 100 Nw. U. L. Rev. 857, 883–84 (2006); T. Maclin, “Government Analysis of Shed DNA Is a Search Under the Fourth Amendment,” 48 Tex. Tech L. Rev. 287, 312 (2015); D. Gusella, Note, “No Cilia Left Behind: Analyzing the Privacy Rights in Routinely Shed DNA Found at Crime Scenes,” 54 B.C. L. Rev. 789, 815–16 (2013); P. Paciocco, Note, “Abandoning Abandoned DNA: Reconsidering How the Fourth Amendment Abandonment Doctrine Is Applied to DNA Samples,” 51 Crim. L. Bull. 1386, 1420 (2015); M. Silvestri, Comment, “Naturally Shed DNA: The Fourth Amendment Implications in the Trail of Intimate Information We All Cannot Help but Leave Behind,” 41 U. Balt. L. Rev. 165, 189 (2011).

One of the two cases the majority cites, *Raynor v. State*, 440 Md. 71, 99 A.3d 753 (2014), cert. denied, 574 U.S. 1192, 135 S. Ct. 1509, 191 L. Ed. 2d 433 (2015), refers to the Matejik article, and only that article, for its “suggest[ion] that society is generally aware of the nature of DNA evidence”; *id.*, 94 n.12; but the case actually assumes that the defendant in that case did have an objectively reasonable expectation of privacy in his genetic material “because, unlike fingerprints, blood, or saliva, society is generally unaware that individuals shed uncontrollably genetic material whenever they venture into public.” *Id.*, 94. This case should not count as support for the majority. The only other case that the majority relies on to support its assertion that there is no reasonable expectation of privacy in shed DNA, *People v. Gallego*, 190 Cal. App. 4th 388, 117 Cal. Rptr. 3d 907 (2010), review denied, California Supreme Court, Docket No. S189452 (March 16, 2011), contains absolutely no analysis of whether the public has any reasonable expectation of privacy in DNA generally because that case is based on abandonment. As I discuss in part II of this opinion, an abandonment analysis poses a very different obstacle for courts determined to

inform the public that they have no expectation of privacy in their genetic material once it is shed or excreted.

In fairness, measuring what “society” actually recognizes as reasonable is a thorny task. Judges are apt to confuse their own expectations of privacy with those of the hypothetical reasonable person to which the *Katz*⁵ test refers. See *United States v. Jones*, 565 U.S. 400, 427, 132 S. Ct. 945, 181 L. Ed. 2d 911 (2012) (Alito, J., concurring in the judgment). Further, the hypothetical reasonable person referenced in *Katz* is constantly changing, in no small part because of changing technology. Dramatic technological change may lead to periods in which popular expectations are in flux and may ultimately produce significant changes in popular attitudes. See, e.g., *California v. Ciraolo*, 476 U.S. 207, 214, 106 S. Ct. 1809, 90 L. Ed. 2d 210 (1986) (there is no reasonable expectation of privacy in items in one’s backyard that may be surveilled aerially because such surveillance involves “simple visual observations from a public place”). Courts and legislatures may further create a feedback loop, “condition[ing] the populace into expecting less privacy.” D. Solove, “Fourth Amendment Pragmatism,” 51 B.C. L. Rev. 1511, 1523–24 (2010); *id.* (“[I]t is very difficult to measure society’s expectations of privacy accurately. . . . [E]xpectations of privacy depend in part on the law, so judicial decisions about reasonable expectations of privacy would have a bootstrapping effect. If the [United States] Supreme Court said there was or was not a reasonable expectation of privacy in something, then that pronouncement would affect people’s future expectations.”). Still, this court can do better than relying on a single law review article that, itself, relies on no other source to back up its conclusion other than what the author assumes people have learned from television shows. With those few unsupported sentences in tow, the majority holds that

⁵ *Katz v. United States*, 389 U.S. 347, 88 S. Ct. 507, 19 L. Ed. 2d 576 (1967).

it is now the law that the people of Connecticut hold no reasonable expectation of privacy in their shed DNA.⁶

Given the factually laden challenge of assessing societally reasonable expectations of privacy, the sources that courts look to when addressing this question vary greatly. But there are some common themes. Regarding whether an arrestee maintains a reasonable expectation of privacy in the extraction and analysis of his DNA, the United States Supreme Court has looked in large part to statutes. See, e.g., *Maryland v. King*, 569 U.S. 435, 443, 133 S. Ct. 1958, 186 L. Ed. 2d 1 (2013) (considering challenge to taking of DNA sample under Maryland law). More generally, courts may assess the nature of the invasion, the custodial status of the person claiming the privacy violation, and the person undertaking the invasion. See 79 C.J.S. 38–40, Searches and Seizures § 22 (2006). Indeed, in part III A of this opinion, I detail our state statutes governing the DNA extraction and analysis of those arrested for and convicted of certain crimes, illustrating that the statutory framework and the legislative history behind it demonstrates that the public does, in fact, hold a reasonable expectation of privacy in the extraction and analysis of its shed DNA. I further consider the defendant’s custodial status in part III C of this opinion.

⁶ Given the sweep of the result to which the majority’s conclusion leads, it should not be too much to demand that the majority explain exactly what the public has learned from television shows like CSI: Crime Scene Investigation, if that is the basis for the majority’s conclusion that society accepts that there is no reasonable expectation of privacy in the DNA of a person whom the government does not have probable cause to search or seize. See part I of the majority opinion. Even if I were to accept that the public is generally aware that the fictional police use fictional DNA when solving fictional crimes, is that the same as the public being generally aware that people’s DNA sheds constantly, and that DNA can be lifted from objects found in people’s garbage, including articles of clothing? Is the public generally aware that DNA can survive after being in the garbage for long periods of time? Is the public “generally aware” that the police, in real life, not fictional television programs, are extracting DNA from garbage to solve crimes?

The other problem I see with the majority’s conclusion that the defendant’s expectation of privacy is unreasonable—the foundational premise of its opinion—is that it is difficult to parse precisely what it finds to be reasonable and what it finds to be unreasonable. Although, in a footnote, the majority concedes that “an individual may maintain a reasonable expectation of privacy in all of the other genetic information [aside from identifying information] encoded [in DNA]”; footnote 8 of the majority opinion; the majority does not actually state that the defendant in this case *does* maintain that expectation of privacy. Is the majority saying that society does, or does not, expect that an individual whom the government does not have probable cause to search or seize holds a reasonable privacy interest in his or her shed DNA? In other words, does the defendant have a reasonable expectation of privacy in his shed DNA to begin with? Or is the majority saying that society understands that DNA—to the extent it reveals identifying information—does not constitute a reasonable privacy interest? These alternative conclusions—that the defendant lacks a privacy interest in his shed DNA to the degree that it reveals identifying information and that he lacks a privacy interest in his shed DNA at all—portend future issues, at least one of which is as much a present as it is a future problem: how the defendant’s privacy interest, or lack thereof, comports with the abandonment theory on which much of the remainder of the majority’s decision is predicated (although it tries hard not to say so explicitly).

B

Although you would hardly know it from the majority’s choice of parlance, the majority critically relies on the concept of abandonment and cases that expressly rely on that concept⁷ to justify its conclusion that the

⁷ See *United States v. Hicks*, Docket No. 2:18-cr-20406-JTF-7, 2020 WL 7311607, *2 (W.D. Tenn. December 11, 2020); *United States v. Scott*, Docket No. 10-00027-01-CR-W-ODS, 2011 WL 5387601, *6 (W.D. Mo. October 3, 2011);

defendant did not have a reasonable expectation of privacy in the extraction and analysis of his DNA because, in the majority’s words, the defendant “discarded” his belt containing his DNA. Part I A of the majority opinion. Fitting DNA into the doctrine of abandonment requires “evidence demonstrating that the defendant affirmatively intended to relinquish his expectation of privacy [in his DNA].” *State v. Jacques*, 332 Conn. 271, 284, 210 A.3d 533 (2019). The majority’s improper treatment of the defendant’s “abandonment” of his DNA as the same as (or following from) the abandonment of his belt is consistent with its failure to clearly articulate what society would deem a reasonable privacy interest in, if anything at all, the defendant’s shed DNA.

The majority’s premise that the defendant has abandoned (or discarded) any interest in the extraction and testing of his DNA is reminiscent of the government’s argument regarding cell site location information, which the United States Supreme Court rejected in *Carpenter v. United States*, supra, 585 U.S. 309–10. In that case, the court held that the defendant maintained a reasonable expectation of privacy in his cell site location records and rejected the government’s argument that he did not have a reasonable expectation of privacy in that information because he had revealed it to a third party by contracting with his wireless carriers. *Id.*, 315–16. In rejecting the government’s argument, the court remarked that neither rationale underlying the third-party doctrine—that the defendant had “‘voluntarily conveyed [the information] to anyone who wanted to look’ ” and had engaged in “voluntary exposure”—applied

State v. Burns, 988 N.W.2d 352, 361–62 (Iowa), cert. denied, ___ U.S. ___, 144 S. Ct. 288, 217 L. Ed. 2d 132 (2023); *State v. Westrom*, 6 N.W.3d 145, 153–54 (Minn.), cert. denied, ___ U.S. ___, 145 S. Ct. 418, 220 L. Ed. 2d 172 (2024); *McCurley v. State*, 653 S.W.3d 477, 490–91 (Tex. App. 2022, pet. ref’d); *State v. Vannieuwenhoven*, 412 Wis. 2d 33, 53–54, 8 N.W.3d 63 (App.), review denied, 15 N.W.3d 27 (Wis. 2024).

to cell site location information, given that “[c]ell phone location information is not truly ‘shared’ as one normally understands the term. . . . [C]ell phones and the services they provide are ‘such a pervasive and insistent part of daily life’ that carrying one is indispensable to participation in modern society. . . . [A] cell phone logs a cell-site record by dint of its operation, without any affirmative act on the part of the user beyond powering up.” (Citation omitted.) Id., 314–15. Further, the court noted that “the rule [it] adopts ‘must take account of more sophisticated systems that are already in use or in development.’ ” Id., 313; see also *Kyllo v. United States*, 533 U.S. 27, 30, 40, 121 S. Ct. 2038, 150 L. Ed. 2d 94 (2001) (government’s use of thermal imaging device on public street to detect heat within private home constitutes search under fourth amendment).

Crucially, the reason why the present case is reminiscent of *Carpenter* is because the rationales that inform the abandonment doctrine are the same as those that inform the third-party doctrine discussed in *Carpenter*. See S. Chan, Note, “Ending Arbitrary Invasions by Shielding ‘Abandoned’ Password Protected Phones,” 76 Fla. L. Rev. 825, 856 (2024) (“The third-party and abandonment doctrines have similar legal justifications: both involve a defendant willingly giving up a reasonable expectation of privacy in their property. The only difference is that the third-party doctrine involves exposure to an outside party, while the abandonment doctrine involves exposure to the general public.”); cf. *California v. Greenwood*, 486 U.S. 35, 41, 108 S. Ct. 1625, 100 L. Ed. 2d 30 (1988) (“the police cannot reasonably be expected to avert their eyes from evidence of criminal activity that *could have been observed by any member of the public*”) (emphasis added)); *Katz v. United States*, 389 U.S. 347, 351, 88 S. Ct. 507, 19 L. Ed. 2d 576 (1967) (“[w]hat a person *knowingly* exposes to the public, even in his own home or office, is not a subject of

[f]ourth [a]mendment protection” (emphasis added)). Further, abandoning an object, or set of objects—such as garbage, or, as it happens, a belt—hardly means that you abandon everything within those objects, just as powering on a cell phone hardly means you invite third parties to surveil your cell site location records. Our own case law expressly recognizes as much. See *State v. DeFusco*, 224 Conn. 627, 639 n.19, 620 A.2d 746 (1993) (“[w]e are sensitive to the reality that, in our complex society, some Connecticut residents may legally generate garbage that reveals highly personal information,” including medical information). We further noted in *DeFusco* that a defendant might demonstrate that he did not abandon a privacy interest in an item within his garbage by “eradicating any identifying items in the garbage that would be necessary to link the garbage to him.” *Id.*

Simply put, DNA does not fit into the doctrine of abandonment.⁸ See P. Paciocco, *supra*, 51 Crim. L. Bull. 1391 (“[P]eople cannot realistically avoid discarding their DNA samples. . . . [Unlike] normal trash disposal, DNA ‘abandonment’ is not a conscious and volitional activity.”). Indeed, the majority *acknowledges* that the abandonment framework is difficult to pair with the realities of DNA, noting that “people can do very little—if anything at all—to completely prevent [their] DNA from shedding” (Citation omitted.) Part I A of the majority opinion. Just as was true with the cell site location records in *Carpenter*, there was nothing “voluntary” in the present case about the defendant’s DNA remaining on his belt. Just as the “affirmative act on the part of the user” in *Carpenter* was limited

⁸ In the rare instance in which defendant *does* abandon his DNA, he makes some type of affirmative statement or action, such as, “‘here’s your DNA’” *United States v. Hicks*, Docket No. 2:18-cr-20406-JTF-7, 2020 WL 7311607, *2 (W.D. Tenn. December 11, 2020); see *id.* (defendant stated to police, “‘here’s your DNA,’” evincing intent to abandon privacy interest in DNA).

to that user's "powering up" his phone; *Carpenter v. United States*, supra, 585 U.S. 315; the affirmative act on the part of the defendant in this case, leaving trace DNA in his garbage, was limited to his existing in the world, shedding DNA as we all do constantly, without choice in the matter. Indeed, there is even *less* that the defendant in this case could do to "[eradicate] any identifying [information]"; *State v. DeFusco*, supra, 224 Conn. 639 n.19; from his garbage, short of never leaving his home or, as the state suggested at oral argument before this court, routinely bleaching his garbage to avoid abandoning his DNA. The defendant in *Carpenter* could simply live life without using a cell phone, leaving it at home or turning it off, although the United States Supreme Court determined that such actions were unnecessary to garner fourth amendment protection. The defendant in this case has no such options.

Although the majority assiduously avoids saying it is doing so, it has in fact necessarily placed the defendant's shed DNA within the abandonment doctrine. The majority routinely substitutes the word "discarded" when it means, in fact, "abandoned," even when discussing the defendant's belt, which no one disputes he abandoned by taking the volitional step of putting his garbage to the curb. Thus, the majority leaves implicit its necessary conclusion that the defendant had abandoned his privacy interest in his shed DNA, all while referencing cases that exclusively operate within the abandonment doctrine. See footnote 8 of the majority opinion and accompanying text. Much as the majority avoids analyzing whether it is reasonable for society to expect privacy in its shed DNA, it avoids tackling how the defendant's DNA fits into its abandonment analysis. In doing so, the majority invites inherently flawed logic.

C

But the majority does not stop there, holding that "the collection of DNA from the defendant's discarded

belt was not a search under the fourth amendment” when that collection was solely used for identification purposes because, in the majority’s view, society recognizes that the police may use shedded biological materials to aid crime investigations, and, therefore, it is possible to abandon one’s shed DNA. Part I A of the majority opinion. Although I disagree, even in isolation, that there is no reasonable expectation of privacy in the identifying characteristics gleaned from one’s DNA, the majority improperly conflates the police function that it purports to support—identification—and the police function that it, in fact, supports—investigation. “If identifying someone means finding out what unsolved crimes he has committed, then identification is indistinguishable from the ordinary [law enforcement] aims that have never been thought to justify a suspicionless search.” *Maryland v. King*, supra, 569 U.S. 470 (Scalia, J., dissenting). Indeed, our own case law has discussed that it matters for what purpose the government conducts a search, making the majority’s determination that identification and investigation are one and the same particularly troubling. See, e.g., *State v. Jackson*, 304 Conn. 383, 403, 40 A.3d 290 (2012) (defendant’s belongings were lawfully seized by New York City police pursuant to community caretaking function, but transfer of items to New Haven police without search warrant did not violate defendant’s fourth amendment rights because “the transfer involved no additional intrusion into the defendant’s privacy”). But cf. *State v. Joyce*, 229 Conn. 10, 14, 23–24, 639 A.2d 1007 (1994) (forensic testing of defendant’s clothes for investigative purpose without search warrant, after police had seized clothes pursuant to community caretaking function, violated article first, § 7, of state constitution because testing was “capable of determining a multitude of private facts about an individual” not detectable from clothing itself).

D

Finally, the majority accepts as a factual matter, incorrectly, in my view, the state's party line that "the DNA testing kit that the state forensic laboratory used [was not] capable of revealing more than the defendant's identity" Part I B of the majority opinion. But I have not seen a trial court finding to this effect and with good reason. The record reflects that the state used a DNA test capable of analyzing thirteen single tandem repeat (STR) loci, which are unique genomic markers. See footnote 5 of the majority opinion. However, the majority neglects to mention that the thirteen STR loci that were tested can, in fact, reveal more than just identity, meaning that, even if the defendant's DNA sample contained only these thirteen loci, it could reveal more than his identity.⁹ Indeed, Michael Bourke, a DNA analyst with the state forensic laboratory, testi-

⁹ See M. Ryan, "The Privacy, Probability, and Political Pitfalls of Universal DNA Collection," 20 SMU Sci. & Tech. L. Rev. 3, 12–14 (2017) ("Whether collected DNA can reveal more information than just individuals' identities is actually more nuanced. The universal collection of DNA could indeed give the government unprecedented access to our personal, private information. DNA contains vast amounts of information about one's identity—one's history, diseases, family, etc. The extent to which the government actually has access to this private information, though, depends on what exactly the government stores. If the government stores the DNA sample, then the sample can be tested for various private information so long as enough of a [noncontaminated] and [nondeteriorated] DNA sample continues to exist. If the examiner develops a DNA profile using just the thirteen loci that are typically examined when attempting to establish identity and then destroys the original sample, then only information about the alleles at those loci will be available. Some commentators argue that the DNA involved in this identification is 'junk DNA,' which does not provide any such information—it is in fact just otherwise useless DNA that has been conveniently repurposed for the use of identification. But to say that so-called 'junk DNA' provides only identifying information is incomplete and misleading. The frequently employed 'junk DNA' label for these regions of DNA is a misnomer. So-called 'junk DNA' also provides significant private information. This portion of DNA contains information related to the likelihood of an individual developing Crohn's disease, multiple sclerosis, diabetes, lupus, celiac disease, and heart conditions." (Footnotes omitted.)).

fied that “you can do some kind of ancestry” with the test used to analyze the defendant’s DNA sample, meaning that the state acknowledged that the test used could ascertain more than just the defendant’s identity. Therefore, the majority’s insistence that the test that the state used was capable of revealing only the defendant’s identity, based on my review of the record, is simply inaccurate.

Moreover, the majority’s hyperfocus on which test on the market was used, or what that test might reveal, obscures whether its inquiry turns on how much personal information the state may glean from the defendant’s DNA *sample*, as opposed to which test it happened to use to analyze that sample. To this day, the state is presumably storing that DNA sample, originating from the defendant’s belt, as well as the defendant’s DNA profile and the profiles of the three other individuals (members of the defendant’s family) whom the police targeted and whose DNA they collected at the behest of the third-party forensic investigation company.¹⁰ The majority ignores this complication, therefore linking the defendant’s expectation of privacy in his DNA sample to his expectation of privacy in the information that the state could glean from the test that the state chose to use. I do not accept that whether our state’s residents enjoy a reasonable expectation of privacy in the extraction and testing of their shed DNA—and therefore whether the police must seek a warrant from a court—depends on what sort of test the state decides to order and use, which could be contingent on vagaries such as budget, available technology, or the demands of the current law enforcement administration. See *State v.*

¹⁰ The record does not affirmatively reflect whether the state continues to house the defendant’s DNA sample extracted from his belt. However, regarding forensic evidence more generally, Bourke testified that “[w]e save samples from all the cases we have, and we always have saved them and we continue to save them.”

Burns, 988 N.W.2d 352, 384–85 (Iowa) (Oxley, J., dissenting) (“If we were assessing only whether *police conduct* was reasonable here, it is certainly important that officers only requested a report on whether [the defendant’s] DNA matched the blood sample from the crime scene—they did not request, or even receive, anything else. But in assessing whether individuals have a reasonable expectation that their DNA will remain private and not be tested without their consent or without a warrant, we should not blind ourselves to the vast scope of information police can gain access to when they ‘peek behind the curtain’ of DNA. Allowing [police] conduct to limit the scope of the allegedly protected privacy interest turns the [f]ourth [a]mendment analysis on its head.” (Emphasis in original; footnote omitted.)), cert. denied, — U.S. —, 144 S. Ct. 288, 217 L. Ed. 2d 132 (2023).

E

By inaccurately portraying what the testing kit at issue in this case reveals, conflating the defendant’s privacy interest in his belt and in his shed DNA, failing to recognize that the state’s interest in identification is, in fact, a mask that covers an invasive and warrantless investigation, and inadequately reckoning with what society would deem reasonable, the majority’s holding opens the door to the dystopian public policy consequences that accompany the all too familiar function creep. In the context of DNA testing for identification purposes, familial DNA match searching—the very procedure that the private third-party forensic investigation company used in this case to provide the state with leads based on the 2003 DNA profiles—is “[o]ne current example of ‘function creep’ . . . where perpetrators are found due to their relatedness to the source DNA. Through partial DNA matches, officials can link the arrestee’s family members to unrelated, unsolved offenses. Hypothetically, an innocent individual could be arrested

for a crime that he did not commit and accordingly released, but nonetheless his DNA could remain in the database in order to explore the culpability of the arrestee's family members. Consequently, not only are the privacy rights of the arrestee infringed, but so are the rights of his entire bloodline." (Footnotes omitted.) K. Ferrell, Comment, "Twenty-First Century Surveillance: DNA 'Data-Mining' and the Erosion of the Fourth Amendment," 51 Hous. L. Rev. 229, 251 (2013).

These invasions are not hypothetical for three of the defendant's family members, who the police surveilled or tricked so that a DNA sample could be obtained, tested and stored, even though they were ultimately ruled out as perpetrators. In short, I am concerned in this case about the inevitability of the majority's holding being extended in other ways, as has happened so often in this country. See T. Simoncelli & B. Steinhardt, *supra*, 34 J.L. Med. & Ethics 203 ("[i]n a more sinister episode in our nation's history, census records created for general statistical purposes were used during World War II to round up innocent Japanese Americans and to place them in internment camps").

Familial data searching raises additional privacy issues related to the right of anonymity:¹¹ "DNA analysis

¹¹ A plethora of secondary sources discusses the relationship between an individual's privacy interest in his identity and in his anonymity. See, e.g., J. Skopek, "Reasonable Expectations of Anonymity," 101 Va. L. Rev. 691, 727-28 (2015) ("While the [United States Supreme] Court has not explicitly characterized this interest in being 'left alone in public' as an interest in 'anonymity,' a review of the [f]ourth [a]mendment case law post-*Katz* reveals that many cases that have been nominally about reasonable expectations of privacy have actually been about reasonable expectations of anonymity. The [c]ourt's recognition that the [f]ourth [a]mendment protects against intrusions into one's anonymity can be seen most clearly in *Hibel v. [Sixth Judicial District Court]*, 542 U.S. 177, 124 S. Ct. 2451, 159 L. Ed. 2d 292 (2004), in which] the Supreme Court addressed a [f]ourth [a]mendment challenge to a state statute that allowed the police to arrest a suspect who refused to identify himself in the course of an investigatory stop. The [c]ourt held that the statute did not violate the [f]ourth [a]mendment, but did implicate it. Specifically, the [c]ourt held that compelled identification was only

companies . . . marketing services to law enforcement that would allow them to use DNA to predict the specific ancestry of an offender or infer the offender's eye color." R. Cox, Note, "Unethical Intrusion: The Disproportionate Impact of Law Enforcement DNA Sampling on Minority Populations," 52 Am. Crim. L. Rev. 155, 170 (2015). Outside the DNA context, examples of the danger of function creep abound. See P. Grimm et al., "Artificial Intelligence As Evidence," 19 Nw. J. Tech. & Intell. Prop. 9, 51–52 (2021) (Risk assessment software originally designed to assess "treatment needs of offenders . . . [was] morphed from that to [pretrial] release and bail decisions, and from there to sentencing, despite lack of validation for the additional purposes. . . . [In another example] the [United States] Transportation Security Administration . . . claims that its equipment is configured so that images cannot be recorded, it nonetheless requires that all airport body

constitutional in 'the course of a valid [stop pursuant to *Terry v. Ohio*, 392 U.S. 1, 88 S. Ct. 1868, 20 L. Ed. 2d 889 (1968)],' and further, that 'an officer may not arrest a suspect for failure to identify himself if the request for identification is not reasonably related to the circumstances justifying the stop.' Thus, the [c]ourt recognized that the [f]ourth [a]mendment protects a suspect's interest in remaining anonymous. The fact that this interest in anonymity can be outweighed by competing government interests—in this case, the same interests that allowed the police to temporarily seize the suspect for the *Terry* stop—does not diminish but rather reinforces the fact that it is an interest protected by the [f]ourth [a]mendment. The same lesson can be found in a set of Supreme Court and circuit court cases addressing [f]ourth [a]mendment challenges to the mandatory DNA testing of arrestees, convicts, and parolees. The courts have uniformly rejected these challenges, holding that the practice does not violate a reasonable expectation of privacy. In reaching this conclusion, all of the courts have reasoned that this type of testing reveals nothing more than these persons' identities, and that given their status in the criminal justice system, they have no reasonable expectation of privacy in their identities. . . . While this logic has been widely criticized on substantive grounds, what is relevant . . . is one of its formal features. Because 'privacy of identity' is the same as 'anonymity,' these cases actually hold that there is no [f]ourth [a]mendment violation because people whose identities are already known to the criminal justice system have *no reasonable expectations of anonymity*." (Emphasis in original; footnotes omitted.)).

scanners that it purchases have a hard drive and Internet connectivity so that they are able to store and transmit images for the purposes of ‘testing, training, and evaluation.’ In 2010, the [United States] Marshals Service acknowledged that it surreptitiously recorded tens of thousands of images at a single Florida checkpoint and that the machine it used could even be operated remotely. The purposes for which [these] data [were] collected remains unclear.” (Footnotes omitted.)); S. Schropp, “Biometric Data Collection and RFID Tracking in Schools: A Reasoned Approach to Reasonable Expectations of Privacy,” 94 N.C. L. Rev. 1068, 1090 (2016) (biometric data collection for minor students “designed for safety and attendance” may be used for “crime solving” considering that “school administrators extol the ability to determine who was present during a fight”). I do not doubt the sincerity with which both the state represents, and the majority fully accepts, that the warrantless collection, testing, and unchecked storage of a target person’s DNA sample is for identification purposes only, albeit within the scope of a police investigation (i.e., ruling him in or out as a suspect). But it is not the first time that a court has made such a promise, as Justice Scalia pointed out in his dissent in *Maryland v. King*, supra, 569 U.S. 435: “The [c]ourt disguises the vast (and scary) scope of its holding by promising a limitation it cannot deliver. The [c]ourt repeatedly says that DNA testing, and entry into a national DNA registry, will not befall thee and me, dear reader” Id., 481 (Scalia, J., dissenting). Justice Scalia’s warning is manifest in the present case. It is not difficult to further predict that, perhaps in the not too distant future, those who take over the reins of government, or other actors such as hackers or foreign entities, might use that same information for other goals, whether noble or nefarious. See *Olmstead v. United States*, supra, 277 U.S. 479 (Brandeis, J., dis-

senting) (“Experience should teach us to be most on our guard to protect liberty when the [g]overnment’s purposes are beneficent. Men born to freedom are naturally alert to repel invasion of their liberty by evil-minded rulers. The greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”); see also *State v. Burns*, supra, 988 N.W.2d 397 (McDermott, J., dissenting) (“Justice [Brandeis]’ warning about state action is well heeded here The potential power to assemble a DNA database of all Americans using ‘abandoned’ DNA (in which the majority says you have no rights) to ‘improve both the criminal justice system and police investigative practices’ should bring a shudder to the reader.” (Citation omitted.)).

In any case, no amount of emphasizing the particulars of the test that was used, or what that particular test might reveal, persuades me that, based on acts passed by the legislature and cases decided by this court, Connecticut residents do not maintain a reasonable expectation of privacy in the identifying information gleaned from the government’s extraction and testing of shed DNA. We, as a society, may have, in other contexts, yielded to the relentless forces of technology that have invaded what would otherwise be private and succumbed to the voracious appetite of government for more and more information about Connecticut residents. But that fact, informed by demands for greater security and safety in the modern age, does not change my conclusion that the state’s warrantless harvesting of the shed DNA of its residents in this case is improper. Having explained my disagreements with the premises of the majority’s analysis, I turn to the question of whether the defendant’s interest in the extraction and analysis of his shed DNA, collected by the government for what the majority refers to as identification pur-

poses, is indeed reasonable under our state constitution.

III

I begin my state constitutional analysis with the elementary observation that a privacy interest is protected from unreasonable searches and seizures under article first, § 7, of the Connecticut constitution if that interest is both subjectively and objectively reasonable, mirroring the standard for privacy protections under the fourth amendment to the United States constitution. See, e.g., *State v. DeFusco*, supra, 224 Conn. 633; see also *Smith v. Maryland*, 442 U.S. 735, 739–40, 99 S. Ct. 2577, 61 L. Ed. 2d 220 (1979). Of course, the fact that our inquiry under the Connecticut constitution is the same as that of its federal counterpart does not mean that our conclusion must be the same. The results of this inquiry are ultimately based on Connecticut’s own “laboratory of democracy.” This inquiry requires this court to consider, subjectively, whether a defendant “demonstrate[s] an intent ‘to preserve [something] as private,’ and free from knowing exposure to the view of others”; *State v. Houghtaling*, 326 Conn. 330, 348, 163 A.3d 563 (2017), cert. denied, 584 U.S. 949, 138 S. Ct. 1593, 200 L. Ed. 2d 776 (2018); as well as, objectively, whether “Connecticut citizens would recognize [the issue on appeal] as [a] reasonable [invasion of privacy].”¹² *State v. DeFusco*, supra, 633. The operative

¹² The law of our state has routinely referred to “Connecticut citizens” when determining privacy protections under article first, § 7, of the Connecticut constitution. See, e.g., *State v. Williams*, 311 Conn. 626, 644, 88 A.3d 534 (2014); *State v. Jenkins*, 298 Conn. 209, 260, 3 A.3d 806 (2010). In the interest of clarity, we note that “Connecticut citizens” refers to residency, not citizenship status, in accordance with long-standing United States Supreme Court precedent holding that noncitizens are protected by the fourth amendment. See, e.g., *Johnson v. Eisentrager*, 339 U.S. 763, 771, 70 S. Ct. 936, 94 L. Ed. 1255 (1950) (“[A]t least since 1886, we have extended to the person and property of resident aliens important constitutional [guarantees]—such as the due process of law of the [f]ourteenth [a]mendment. . . . [I]n extending constitutional protections beyond the citizenry, the [c]ourt has been at pains to point out that it was the alien’s presence within its territorial

question in this case, as the majority has framed it, is whether society would recognize an objectively reasonable privacy interest in the extraction and testing of an individual's DNA, or, in other words, a right to anonymity—a right to be left alone. Unlike the majority, I do not partition my analysis of the defendant's privacy interests into discrete sections regarding the collection of his DNA and the analysis of that DNA. I do not believe that such separation is necessary, or helpful, in addressing the question before the court.

As I detailed in part II of this opinion, in my view, the majority skips over whether *society* would expect a person who the police do not have probable cause to search or seize to have a reasonable expectation of privacy in the extraction and analysis of his DNA. Instead, it sanctions what I believe is an incorrect understanding of federal law and a reductive assessment of the familiar considerations articulated in *State v. Geisler*, 222 Conn. 672, 685, 610 A.2d 1225 (1992), in concluding that society would not expect a person to have a reasonable expectation of privacy in the extraction and analysis of one's DNA.¹³ As this court has done many times when measuring reasonable expectations of privacy of the public, I look to the *Geisler* considerations to address whether *Katz*' "reasonable person" would find, in Connecticut, a privacy violation to be reasonable. See, e.g., *State v. Kono*, supra, 324 Conn. 89, 92 (applying *Geisler* consid-

jurisdiction that gave the [j]udiciary power to act." (Citation omitted.)); see also *Wong Wing v. United States*, 163 U.S. 228, 238, 16 S. Ct. 977, 41 L. Ed. 140 (1896); *Yick Wo v. Hopkins*, 118 U.S. 356, 369, 6 S. Ct. 1064, 30 L. Ed. 220 (1886).

¹³ See *State v. Skok*, 318 Conn. 699, 708, 122 A.3d 608 (2015) (*Geisler* considerations include "(1) the text of the relevant constitutional provisions; (2) related Connecticut precedents; (3) persuasive federal precedents; (4) persuasive precedents of other state courts; (5) historical insights into the intent of [the] constitutional [framers]; and (6) contemporary understandings of applicable economic and sociological norms [otherwise described as public policies]" (internal quotation marks omitted)).

erations to determine if defendant had reasonable expectation of privacy under article first, § 7, of state constitution in common area of condominium development or in contraband found inside his condominium as result of warrantless canine sniff for investigatory purpose); see also, e.g., *State v. Skok*, 318 Conn. 699, 701, 708, 122 A.3d 608 (2015). We have expressly recognized that “not every *Geisler* factor is relevant in all cases,” however, and that we should assess particular *Geisler* considerations only “to the extent [that they are] applicable” (Internal quotation marks omitted.) *Kerrigan v. Commissioner of Public Health*, 289 Conn. 135, 157, 957 A.2d 407 (2008). I agree with the majority that the text of article first, § 7, as well as the intent of the state constitution’s framers, sheds little light on the question before this court, considering that “[t]he language of article first § 7, which was based upon the fourth amendment, was adopted with little debate.” (Internal quotation marks omitted.) *State v. Skok*, supra, 709. Moreover, we have recognized particularly that the text of article first, § 7, as well as the intent of the constitutional framers, is not relevant to modern day expectations of privacy. See, e.g., *State v. DeFusco*, supra, 224 Conn. 635 (“[a]lthough we have, on occasion, employed a historical analysis of state constitutional provisions to aid in our determination of their content . . . the reasonable expectation of privacy analysis is peculiarly focused on current conditions and requires a factual inquiry into all the relevant circumstances” (citations omitted)).

Therefore, I begin with what I believe should be the most relevant considerations when resolving whether the extraction and testing of DNA for identification purposes unreasonably invades Connecticut residents’ privacy: articulations of Connecticut public policy and related Connecticut precedents. I then turn to persuasive federal precedents and debunk what I consider

the majority's mistaken interpretation of United States Supreme Court and other federal jurisprudence. Finally, I proceed to assess the impact of other state courts' precedents.

A

In view of its natural relationship to societal expectations of privacy, which is, first and foremost, what we must determine under the *Katz* test, a consideration of this state's public policy is paramount when determining whether society is prepared to recognize a privacy interest in DNA as reasonable. This court has recognized that, because "[l]egislative enactments are expressions of this state's public policy"; *State v. Miller*, 227 Conn. 363, 375, 630 A.2d 1315 (1993); "they may be relevant to the resolution of whether the defendant's expectation of privacy is one that Connecticut citizens would recognize as reasonable." *State v. Bernier*, 246 Conn. 63, 73, 717 A.2d 652 (1998). Therefore, a review of the comprehensive statutory scheme governing the DNA sampling of individuals for identification purposes is appropriate. On its face, the fact that the legislature has constructed a framework detailing if, when, and how DNA samples may be collected, tested, and stored with respect to particular classes of arrested and convicted individuals for identification purposes supports a conclusion that Connecticut residents enjoy a reasonable expectation of privacy in their DNA samples, even when those DNA samples are presently tested solely for identification purposes. See General Statutes §§ 54-102g through 54-102m.

The first part of this statutory scheme, § 54-102g, details specific classes of convicted and arrested offenders who must submit to DNA extraction. The only class of arrested, rather than convicted, offenders required to submit to DNA extraction are those arrested for the commission of a "serious felony," who previously have

been convicted of a felony but did not submit to DNA extraction at that time. General Statutes § 54-102g (a). Notably, however, the “serious felon[ies]” listed in subsection (a) of § 54-102g do not include a number of violent felonies. For example, individuals arrested for the following crimes need not submit to DNA extraction and testing: sexual assault in the second degree; General Statutes § 53a-71; assault of a Department of Correction employee in the first degree; General Statutes § 53a-59b; assault of a pregnant woman resulting in the termination of pregnancy; General Statutes § 53a-59c; and arson in the third degree. General Statutes § 53a-113. The remainder of § 54-102g limits the individuals who must comply with DNA extraction and testing to those who have been convicted, or found not guilty by reason of mental disease or defect, of a criminal offense against a minor victim. See General Statutes § 54-102g (b) through (f). Based on the plain language of § 54-102g, therefore, an individual convicted of sexual assault in the second degree, when the victim was an adult, could appropriately reject the government’s attempt to extract and test his DNA. This suggests that the legislature did not consider the state’s interest in public safety to be significant enough to require warrantless, involuntary extraction and testing of such an individual’s DNA because that sampling would unreasonably invade his privacy.

The remainder of this statutory scheme further supports the conclusion that it is the public policy of Connecticut that its residents maintain a reasonable expectation of privacy in the extraction of their DNA samples and the identifying information gleaned from that extraction. Specifically, §§ 54-102h, 54-102i and 54-102j detail procedures that state officers must abide by when extracting biological samples for a DNA analysis, conducting that DNA analysis, and storing the results of that DNA analysis for those offenders—and only those offenders—listed in § 54-102g. Section 54-102k

provides in relevant part that any individual who, without authority, “obtains or attempts to obtain any [DNA] sample submitted . . . for analysis shall be guilty of a class D felony.” Section 54-102l provides that state officials “shall” expunge the DNA profile, as well as “all records and identifiable information in the [DNA] data bank” for those individuals whose criminal convictions were reversed, and their cases dismissed, after having had their DNA information extracted pursuant to § 54-102g. Finally, § 54-102m mandates that “a DNA Data Bank Oversight Panel composed of the Chief State’s Attorney, the Attorney General, the Commissioner of Emergency Services and Public Protection, the Commissioner of Correction, the executive director of the Court Support Services Division of the Judicial Department and the Chief Public Defender . . . shall take such action as necessary to assure the integrity of the data bank including the destruction of inappropriately obtained samples and the purging of all records and identifiable information pertaining to the persons from whom such inappropriately obtained samples were collected.”

In my view, the majority’s assertion that Connecticut residents enjoy no reasonable expectation of privacy in the identifying information taken from their shed DNA cannot be squared with this statutory scheme. The majority’s retort that, “[i]f an individual had a reasonable expectation of privacy in the collection of biological materials involuntarily or inadvertently shed on items discarded, then the police would need to obtain a warrant before they could lift or collect such materials at a crime scene,” is unpersuasive. Footnote 9 of the majority opinion. Our state’s public policy, articulated through our statutes, acknowledges the obvious difference between the actions of law enforcement in collecting evidence at a crime scene and the actions of law enforcement in trying to match a perpetrator to that

crime scene. For example, General Statutes § 29-7b (c) provides in relevant part that the government may “investigate any physical evidence or evidentiary material related to a crime upon the request of any federal, state or local agency” and “may conduct or assist in the scientific field investigation at the scene of a crime” Further, the majority’s concern about the government’s ability to sweep a crime scene for evidence goes to a fundamental misunderstanding about our disagreement—the issue is not that the police collected shed DNA. It is that the police collected *the defendant’s* shed DNA, because they believed it was the defendant’s DNA, for an investigative purpose, without a warrant. See J. Skopek, “Reasonable Expectations of Anonymity,” 101 Va. L. Rev. 691, 762 (2015) (“[W]hen we engage in [activities like dialing phone numbers and making online purchases], we do not always expect that the *information* contained in our phone logs, purchases, blood, and tissue will remain unknown. Rather, what we often expect to remain unknown is the fact that this information is information *about us*. (Emphasis in original.)).

If the majority is correct that there is no reasonable expectation of privacy in one’s “discarded” (the majority’s euphemism for “abandoned”) DNA, why would the legislature explicitly require the deletion of the DNA records, including both the samples and profiles, of those individuals whose convictions were reversed and cases dismissed? Why would the legislature limit the types of offenders who must submit to DNA sampling and testing in the first place? Perhaps most troubling, why would the privacy rights of incarcerated individuals, which are qualified by their custodial status; see, e.g., *Maryland v. King*, supra, 569 U.S. 462 (privacy expectations of those taken into police custody “‘necessarily [are] of a diminished scope’ ”); have greater protection than individuals living their lives in the com-

munity who have neither been arrested nor convicted of *any* crime, at any time, much less the crimes enumerated in § 54-102g?

The legislative history underlying this statutory scheme answers these questions, confirming that the legislature has debated and concluded that the state's residents have an expectation of privacy in the government's extraction of their DNA samples and the identifying information gleaned from those samples, and that expectation is reasonable. One supporter of this legislation; see Public Acts 1994, No. 94-246, §§ 1 through 6; explicitly reasoned that the statutes authorizing DNA extraction were "not a significant invasion of privacy since [they] only [include] convicted offenders," as opposed to most arrestees or civilians. Conn. Joint Standing Committee Hearings, Judiciary, Pt. 5, 1994 Sess., p. 1574, testimony of Gail Burns-Smith, executive director of Connecticut Sexual Assault Crisis Services, Inc.; see also *Bell v. Wolfish*, 441 U.S. 520, 557, 99 S. Ct. 1861, 60 L. Ed. 2d 447 (1979) (privacy interests of those in custody may be tempered to achieve "appropriate security measure[s]"); *State v. Bemmer*, 339 Conn. 528, 574, 262 A.3d 1 (2021) (invasion of defendant's privacy interest requires "'nexus between the law's intrusion on . . . the diminished privacy interest . . . and the information obtained from that intrusion'").

In 2003, the legislature amended the previously discussed statutory scheme by creating the oversight committee and addressing privacy concerns implicated by DNA testing. See Public Acts 2003, No. 03-242. Fears of function creep were already present, with one commentator expressly stating that, "[i]n the [1930s], promises were made that the Social Security numbers would only be used as an aid for the new retirement program, but over the past [sixty] years they have gradually become the universal identifier that their creators claimed they would not be. . . . In less than a decade,

we have gone from collecting DNA from convicted sex offenders . . . to data banks of all violent offenders.” Conn. Joint Standing Committee Hearings, Judiciary, Pt. 10, 2003 Sess., p. 3429, testimony of Teresa Younger, executive director of the Connecticut Civil Liberties Union. The 2003 amendments, first introduced by the legislature’s Committee on Public Safety, received significant criticism for being “overly broad,” considering “that [they] extended to any crime as defined in our General Statutes, which could be misdemeanors as mild as trespass . . . [that were] an unnecessary intrusion into privacy” 46 H.R. Proc., Pt. 20, 2003 Sess., p. 6655, remarks of Representative James F. Spallone. One representative commented further on the proposed legislation’s overly broad nature, considering that it might extend, over time, to require DNA testing for even non-criminal activity and asking, “[h]ow much information can we collect to give Big Brother?” *Id.*, p. 6665, remarks of Representative Kosta M. Diamantis. Representative Diamantis further commented that “[t]his is not a bill, the way it’s written now, to . . . protect the general public from someone who is a pedophile, someone who is a rapist, someone who is a murderer, someone who may be an arsonist, someone who may be a burglar, a robber. . . . There’s still plenty of time left to make an appropriate revision to this bill so it does exactly . . . what it should be doing and taking those DNA samples in those serious cases to prevent the murderers, the rapists, the arsonists. But, my God, these other statutes that we’ve listed here I don’t think are the ones that we wish to acquire DNA samples from. At least I hope not.” *Id.*, pp. 6668–69. Another legislator, criticizing the overbroad strictures of the proposed legislation as encroaching on privacy rights, asked, “[t]here will be no way that police departments would be riding around in their patrol cars with DNA sample tests. Is that correct?” *Id.*, p. 6689, remarks of Representative Reginald G. Beamon.

Given Representative Beamon's more than twenty year old commentary and the government's targeting of three of the defendant's family members for the extraction and testing of samples of their DNA, the majority's criticism of the defendant's policy concerns as hyperbolic rings hollow. In fact, Representative Diamantis' comment about "Big Brother" sums up the issue in this case: whether the government may extract and test DNA from objects lawfully taken from a public street and then store that DNA sample indefinitely.

In light of these concerns, before passage of the previously discussed legislation, lawmakers trimmed the overbroad nature of the statutory scheme to "hone in on those crimes that really lead to serious physical and personal injury" and to protect against an "invasion of rights of privacy of others." 46 H.R. Proc., supra, p. 6674, remarks of Representative Christopher R. Stone. The legislative history of these statutes, therefore, affirms that our state's most public facing branch of government has considered, and addressed, the question that this court treats as novel—whether there is a reasonable privacy interest in identifying information gleaned from DNA—and has affirmatively stated that there is such an interest for many arrested and convicted individuals, notwithstanding the government's interest in public safety.

The majority opts not to consider our statutes when analyzing whether the defendant holds an objectively reasonable expectation of privacy in the identifying information gleaned from his shed DNA, despite our *Geisler* jurisprudence, which has consistently looked to our state's statutes to assist this court in defining a right to privacy that society would recognize as reasonable, just as courts have done historically. See part II C of this opinion. Instead, the majority contends that identifying information from shed DNA is no different from identifying information from fingerprints, and,

therefore, the defendant abandoned any expectation of privacy in his DNA sample by disposing of his belt and never held an expectation of privacy in the identifying information gleaned from analyzing that DNA. I disagree. The analogy that the majority draws between DNA and fingerprints falls apart upon examination. Although I maintain that the DNA test used by the police in this case can reveal more than just identity—indeed, Bourke admitted as much in his testimony before the jury—the extraction of the defendant’s DNA creates a sample that, because it is stored indefinitely, can be tested in myriad ways for myriad purposes. A fingerprint itself is analogous to the DNA “sample” in this case, and, unlike DNA, it can genuinely reveal only identity. See *State v. Burns*, supra, 988 N.W.2d 396 (McDermott, J., dissenting) (“A fingerprint reveals—with existing technology, at least—only identity, and reveals *that* only by comparing one fingerprint against a known sample. A fingerprint itself stores no private information. . . . DNA, on the other hand, arms those with the ability to analyze it with a vast trove of private details about a person. The informational superabundance of DNA and its ever-expanding uses have sparked a scientific revolution. No less than a dozen Nobel Prizes have been awarded for research involving DNA. . . . DNA has not received these accolades because of its mere capacity to verify identity against an exemplar. . . . People do not forfeit to the government a reasonable expectation of privacy in the contents of their entire genetic code—and all that it reveals about them—merely by leaving a drinking straw at a restaurant. DNA is that much richer, that much more laden with information, by orders of magnitude, than fingerprints. And DNA is that much more sensitive to privacy concerns than fingerprint impressions left on a surface. Like fingerprints, the analogy exists on the surface only. The comparison between fingerprints and DNA denotes . . . rational-

ization rather than reasoning.” (Citations omitted; emphasis in original.)).

Further, DNA evidence and fingerprints are used for fundamentally different purposes, and those purposes illuminate why DNA entails additional privacy concerns: “Fingerprints of arrestees are taken primarily to identify them (though that process sometimes solves crimes); the DNA of arrestees is taken to solve crimes (and nothing else).” *Maryland v. King*, supra, 569 U.S. 478 (Scalia, J., dissenting). These sorts of false analogies are not new when it comes to applying the fourth amendment to developing technologies. See M. McAllister, “The Fourth Amendment and New Technologies: The Misapplication of Analogical Reasoning,” 36 S. Ill. U. L.J. 475, 477 (2012) (often “these supposed analogies are so far removed from the new forms of surveillance that analogies to them only confuse, rather than clarify, the actual analysis required by *Katz*”).

Third, it is not a foregone conclusion, as the majority suggests, that the United States Supreme Court would hold that there is no reasonable expectation of privacy in the identifying information from the fingerprints of a person who the government lacks probable cause to search or seize. Although the court has noted, in dictum, that “[f]ingerprinting involves none of the probing into an individual’s private life and thoughts that marks an interrogation or search”; *Davis v. Mississippi*, 394 U.S. 721, 727, 89 S. Ct. 1394, 22 L. Ed. 2d 676 (1969); it did so only in the context of routine police booking procedures. Indeed, Justice Scalia noted in his dissent in *King* that “[t]he [c]ourt does not actually say whether it believes that taking a person’s fingerprints is a [f]ourth [a]mendment search, and our cases provide no ready answer to that question.” *Maryland v. King*, supra, 569 U.S. 477 (Scalia, J., dissenting). The case that the majority refers to cryptically for the more general proposition that “individuals do not have an objectively rea-

sonable expectation of privacy in certain identifying characteristics”; part I B of the majority opinion; did not involve a challenge to the use of fingerprints but, instead, involved a defendant’s claimed expectation of privacy in a voice recording that a grand jury had subpoenaed from him when considering whether to indict him. See *United States v. Dionisio*, 410 U.S. 1, 13–14, 93 S. Ct. 764, 35 L. Ed. 2d 67 (1973). The grand jury’s subpoena in *Dionisio*, notably, underwent judicial scrutiny before the defendant was compelled to comply, unlike the state’s warrantless extraction and testing of the defendant’s DNA sample in the present case. See *id.* To support its fingerprint analogy, the majority also refers to Justice Scalia’s dissent in *King*, notwithstanding that his dissent concludes, expressly, that fingerprinting is *not* analogous to DNA, making its inclusion in the majority’s reasoning odd. See *Maryland v. King*, *supra*, 478 (Scalia, J., dissenting) (“[f]ingerprints of arrestees are taken primarily to identify them (though that process sometimes solves crimes); the DNA of arrestees is taken to solve crimes (and nothing else)”). Also, even if there is no expectation of privacy in identifying information gleaned from fingerprints in *some circumstances*, that does not mean that the public at large has no expectation of privacy in that information.

In fact, the legislature has already determined that identifying information from the fingerprints of individuals who have not been arrested for a crime should be protected from compulsory takings. Only those “persons arrested for crime” must “submit to the taking of their fingerprints” General Statutes § 29-12 (a). Further, “whenever any person, having no record of prior criminal conviction, whose fingerprints . . . are filed . . . in accordance with section 29-12 has been found not guilty of the offense charged, or has had such charge dismissed or nolle, such person’s fingerprints . . . and other identification data, and all copies and

duplicates thereof, shall be returned to such person” General Statutes § 29-15 (a) (1). That same statute requires that any fingerprints or other identifying information in digital form shall be “permanently deleted” and, in physical form, “destroyed” General Statutes § 29-15 (a) (2). This provision also applies retroactively, encompassing those individuals who have been found not guilty or have had the charges against them dismissed prior to 1974. General Statutes § 29-15 (b).¹⁴ That the legislature has taken concrete steps to protect the identifying information from fingerprints, as well as DNA, fundamentally undercuts the majority’s assertion that there is no expectation of privacy in that identifying information in the first place.

The majority also downplays other public policy concerns that abound in this context regarding future implications for the privacy of our state’s residents. The majority accurately sums up these concerns by referencing the amicus’ warning that, “without a right to privacy in one’s DNA, ‘law enforcement can hold onto an isolated DNA sample for as long as it deems necessary’” Part II of the majority opinion. But the majority simply shrugs off these concerns, characterizing them as merely part of a fictional “parade of horrible outcomes . . . concern[ing] issues that are not present in this case.” (Citation omitted; internal quotation marks omitted.) *Id.* The majority should not be so cavalier when the record in *this* very case—not a hypotheti-

¹⁴ Of course, some professions require fingerprinting. But someone *consenting* to sharing his personal information via fingerprints is hardly the same as someone, who does not consent, having no reasonable expectation of privacy in that information. See *Schneekloth v. Bustamonte*, 412 U.S. 218, 219, 93 S. Ct. 2041, 36 L. Ed. 2d 854 (1973) (“one of the specifically established exceptions to the requirements of both a warrant and probable cause is a search that is conducted pursuant to consent”). In fact, schools that require employees to undergo fingerprinting are statutorily mandated to destroy “such fingerprints and positive identifying information” after four years. General Statutes § 10-221d (c).

cal future case—recounts governmental action against three individuals selected by a third-party forensic investigation company with which the state had contracted.¹⁵ At the behest of this third party, and without having to justify or even scrutinize the familial DNA searching methods that it used, the police followed these individuals and surreptitiously collected items they had touched so that their DNA could be tested. There is no reason to believe that the DNA samples from these individuals will not be maintained in a state database for the foreseeable future,¹⁶ just as individuals whose DNA, extracted and tested lawfully pursuant to §§ 54-102h and 54-102j, is stored indefinitely. See General Statutes § 54-102i (“[t]he remainder of a sample submitted for analysis and inclusion in the data bank pursuant to section 54-102g may be divided, labeled as provided for the original sample, and securely stored”).

In short, I am concerned that the majority’s failure to address meaningfully the privacy implications inherent in the government’s ability to extract, test, and indefinitely store any individual’s DNA paves the way for the government to further encroach on the privacy rights of Connecticut residents. I am not convinced that the majority is right that its holding is as limited as it asserts, and I am troubled by what I see as the foreseeable likelihood that it is wrong. For these reasons, I believe that public policy supports recognizing the defendant’s privacy right in the extraction and analysis of his DNA

¹⁵ The defendant expressly argues in his brief that “[a]nother consideration is the privacy considerations of others whose DNA the police take without a warrant or probable cause who are never charged with a crime. Here, there were three other people (that we know of) whose DNA was taken without their consent who have never been charged with a crime. . . . The costs and risks of the police having unfettered and unregulated access to anybody’s DNA outweigh any benefit in allowing this unregulated practice. The police conduct is a threat to the personal privacy of every citizen of Connecticut.”

¹⁶ See footnote 10 of this opinion.

sample under article first, § 7, of the Connecticut constitution.

B

It is particularly notable that the majority omits any discussion of our state statutes given the frequency with which our case law has looked to them when determining societally reasonable expectations of privacy. For example, in *State v. DeFusco*, supra, 224 Conn. 639, this court was persuaded that Connecticut residents have no reasonable expectation of privacy in their garbage, given that General Statutes § 22a-220c (a) and (b) mandate that garbage collectors “assist municipal authorities in identifying recycling violators . . . [and] in assessing recycling compliance.” (Citation omitted; footnotes omitted.) Id., 636. In *State v. Bernier*, supra, 246 Conn. 63, we held that article first, § 7, did not prevent the police from performing gas chromatography analysis on charred wood floor samples lawfully seized from a defendant’s home pursuant to General Statutes §§ 29-302, 29-310 and 29-311 because, “once the evidence was lawfully seized pursuant to the statutorily mandated cause and origin investigation of the fire scene, the defendant’s expectation of privacy in the samples was not reasonable.” Id., 71.

We have not only looked to the General Statutes as evidence of intrusions on privacy that society is prepared to accept as reasonable, however. We also have considered the purpose behind a governmental intrusion. As discussed in part II of this opinion, the majority’s adoption of the state’s characterization of its one and only interest in “identifying” the defendant is a thinly veiled distraction from the state’s true interest—investigation. In *State v. Jackson*, supra, 304 Conn. 383, this court held that the police had properly seized the defendant’s clothing for investigatory purposes, *but only because* they initially seized the clothing when

performing their community caretaking function and that the subsequent investigation “involved no additional intrusion into the defendant’s privacy.” *Id.*, 403. But cf. *State v. Joyce*, *supra*, 229 Conn. 14, 23–24 (there was unreasonable invasion of privacy when police, after lawfully seizing defendant’s clothing pursuant to community caretaking function, transferred clothing for forensic testing and gained additional information that was not apparent from initial lawful seizure). In the present case, to investigate a crime, the state extracted the defendant’s DNA, which it could not detect based solely on its custody of his belt and despite lacking probable cause to breach any of his reasonable privacy expectations. That extraction involved an “additional intrusion into the defendant’s privacy”; *State v. Jackson*, *supra*, 403; considering that the extracted DNA sample was capable of revealing a myriad of private information through the use of advanced technology not in general use by the public at large. See *Kyllo v. United States*, *supra*, 533 U.S. 30, 40 (thermal imaging device, which was not in general use by public, that federal agents used without warrant on public street to detect heat inside private home). Indeed, in *Jackson*, this court noted that the subsequent forensic testing of the defendant’s clothing (coincidentally, also a belt) “did not violate the fourth amendment because the testing was performed pursuant to a search warrant.” *State v. Jackson*, *supra*, 403.

We have also considered, in conjunction with statutes and the purpose behind the invasion, the degree of information that the state can or has gleaned from a particular invasion. In *Joyce*, for example, this court held that testing fire damaged clothing at the state forensic laboratory—after the police had seized that clothing in their community caretaking capacity— was an unreasonable search because the test was “capable of determining a multitude of private facts about an indi-

vidual” (Footnote omitted.) *State v. Joyce*, supra, 229 Conn. 24. Because the state’s testing revealed more information than did its previous permissible seizure of the clothing, and because no particular statute permitted the state to test the fire damaged clothing and to obtain those “private facts”; *id.*; we held that the testing of the clothing was an unreasonable search under article first, § 7. See *id.* In fact, this court later distinguished *Joyce* for exactly this reason, noting in *State v. Bernier*, supra, 246 Conn. 63, that the charred flooring that had been admitted into evidence in *Bernier* “was seized as evidence pursuant to an investigation” authorized by §§ 29-302, 29-310 and 29-311, and testing it was therefore permissible, unlike the testing in *Joyce*. *Id.*, 76.

The majority contends that *Joyce* is not relevant to the present case because the “gas chromatography analysis used was capable of revealing—and did reveal—the presence of other ‘organic material in the defendant’s underwear that was not an accelerant’ ”; part II of the majority opinion; and, therefore, fell within the category of “highly personal information” that this court referenced in *State v. DeFusco*, supra, 224 Conn. 639 n.19. I disagree that this fact distinguishes *Joyce*. Indeed, the “rather private facts” revealed by the analysis undertaken in *Joyce*—“the presence of an organic material in the defendant’s underwear that was not an accelerant”; *State v. Joyce*, supra, 229 Conn. 24 n.16—do not differ significantly from the identifying information that can be gleaned in the present case from the state’s warrantless extraction and testing of the DNA samples from the defendant and three other individuals, which the state maintains in storage to this day. I am therefore not persuaded by the majority’s attempt to distinguish *Joyce* based on either the amount of information gleaned from testing or the personal nature of what was revealed.

Moreover, *Joyce* illustrates how the majority conflates the defendant's privacy interest in his belt with that of his DNA sample extracted from that belt. *Joyce* was concerned with the lawful taking of burnt clothing, and the unlawful search of that clothing—key to our holding in that case was that the amount of information gleaned from taking the clothing, versus testing the clothing, was *different in scope*. The intrusion in the present case goes even further: the proper taking of the defendant's belt differs from the improper extraction, or taking, of a sample of his shed DNA and differs even more from the improper testing, or search, of his shed DNA. No "extraction" occurred in *Joyce* because the testing was performed *on the burnt clothing itself*; that is to say, there was no sample taken of the "organic material in the defendant's underwear" *Id.* Rather, in *Joyce*, it was the state's testing of the defendant's clothing that resulted in the detection of a known pattern for gasoline on the clothing. *Id.*, 14–15. This distinction is relevant for the same reason that the distinction between fingerprints and DNA is relevant: the level of information that could be gleaned from the clothing in *Joyce* was finite, just as it is for fingerprints. The amount of information that can be gleaned from the defendant's DNA sample, however, is hardly finite, particularly given the present and future advances in modern science. Therefore, *Joyce* is relevant to addressing whether the *testing* of the defendant's DNA violated what Connecticut residents would consider a reasonable expectation of privacy, and it supports the defendant's position because the "organic material[s]" discovered in *Joyce*; *id.*, 15; are at least similar to, if not less revealing than, the identifying information gleaned from DNA. But there's more. The majority does not fully come to grips with the defendant's argument that the *extraction* of a sample of his DNA from his belt to create a DNA profile further encroached on his privacy

rights, despite the sample's capacity to reveal substantially more than any test the state happened to choose during its investigation of the defendant.

C

Rather than look to Connecticut's own statutes and case law, which, in my view, support the conclusion that an individual in the defendant's position has a reasonable expectation of privacy in the extraction and testing of his shed DNA for identification purposes under article first, § 7, the majority relies on its analysis of *Maryland v. King*, supra, 569 U.S. 435, to conclude that federal precedent gives us "a reasonable degree of certainty how the United States Supreme Court would resolve the issue" under the fourth amendment, namely, that the defendant has no expectation of privacy in the extraction and testing of his DNA. (Internal quotation marks omitted.) Part I of the majority opinion. The majority relies on its analysis of *King* not only to reject the defendant's fourth amendment claim, but also as part of its consideration of his state constitutional claim under *Geisler*, which, in turn, it also rejects.

Unlike the majority, I believe that federal law is too unsettled to conclude with a reasonable degree of certainty how the United States Supreme Court would resolve the issue under federal law. I read the holding of *King* as being confined to the "collection and analysis of a DNA sample from persons arrested, but not yet convicted, on felony charges," under the purview of the Maryland DNA Collection Act.¹⁷ *Maryland v. King*, supra, 569 U.S. 442; see Md. Pub. Safety Code Ann., § 2-501 et seq. (LexisNexis 2022 & Supp. 2024). In my view, the holdings of at least three United States Supreme Court cases decided after *King*, and another case decided a little more than one year before *King*, cast significant doubt on the majority's assumption that the

¹⁷ See footnote 10 of the majority opinion.

highest court of our nation would reject as unreasonable a defendant's expectation of privacy in the identifying information from his DNA rather than recognize that expectation as reasonable, given both the custodial status of the defendant (and his three other family members) at the time of the extraction of the DNA samples and the amount of information that can be gleaned from those samples. See *Carpenter v. United States*, *supra*, 585 U.S. 303–305 (cell site location data); *Birchfield v. North Dakota*, 579 U.S. 438, 463–64, 136 S. Ct. 2160, 195 L. Ed. 2d 560 (2016) (blood testing upon arrest for driving while impaired); *Riley v. California*, 573 U.S. 373, 403, 134 S. Ct. 2473, 189 L. Ed. 2d 430 (2014) (search of cell phone contents); *United States v. Jones*, *supra*, 565 U.S. 403 (installation of tracking device on vehicle). I am more persuaded by *United States v. Davis*, 690 F.3d 226 (4th Cir. 2012), cert. denied, 571 U.S. 829, 134 S. Ct. 52, 187 L. Ed. 2d 47 (2013), which addressed the very issue before this court and came to a conclusion contrary to that of the majority in the present case.

I begin with my analysis of *King*, which I believe the majority misunderstands and misapplies in asserting that federal law supports its conclusion. In *King*, the defendant was arrested and, “[a]s part of a routine booking procedure for serious offenses, his DNA sample was taken” from a buccal swab to the inside of his cheeks. *Maryland v. King*, *supra*, 569 U.S. 440. Maryland authorities then matched the defendant’s DNA sample with that of the perpetrator in an unsolved sexual assault case, which had been obtained from the victim in that case. *Id.* The defendant in *King* was then prosecuted for and convicted of sexual assault. *Id.* The Court of Appeals of Maryland set aside his conviction, holding that the seizure of his DNA by the police pursuant to the booking procedure was unlawful under the fourth amendment. See *id.*, 441. The United States Supreme Court reversed, beginning its analysis with a discussion

of the Maryland DNA Collection Act, which had allowed the police to extract and test the defendant's DNA, and noting the procedural safeguards in place under that law. See *id.*, 443. Specifically, the high court observed that the Maryland DNA Collection Act authorized the police to collect DNA only from those "charged with . . . a crime of violence or an attempt to commit a crime of violence" but that any sample must be "immediately destroyed" if a court determines that there is no probable cause to detain the individual on a "qualifying serious offense," or if the offense does not result in a conviction or if that conviction is vacated. (Internal quotation marks omitted.) *Id.*, 443–44. After determining that "the [f]ourth [a]mendment applie[d]" to the DNA extraction and testing at issue, the court determined whether the extraction and testing of the defendant's DNA was reasonable under the circumstances presented, given that, although " 'some quantum of individualized suspicion . . . [is often] a prerequisite to a constitutional search or seizure' . . . some circumstances . . . diminish the need for a warrant . . . because . . . some reasonable police intrusion on [an individual's] privacy is to be expected." (Citations omitted.) *Id.*, 446–47. Because the defendant in *King* was an arrestee, the court noted that the appeal "[could] be addressed with this background." *Id.*, 447. The court expounded on "the permissible limits of such intrusions [that] are defined narrowly and specifically in the regulations that authorize them" for "this class of arrestees," rather than for the public at large. (Internal quotation marks omitted.) *Id.*, 448.

Accordingly, the court in *King* weighed the governmental interests served by the Maryland DNA Collection Act and the privacy interests of the defendant to assess whether the extraction and testing of his DNA pursuant to that law was permissible. The court summarized the governmental interests as (1) "[i]n every criminal case,

it is known and must be known who *has been arrested and who is being tried*"; (emphasis added; internal quotation marks omitted) *id.*, 450; (2) "law enforcement officers bear a responsibility for ensuring that the custody of an arrestee does not create inordinate 'risks [to] facility staff, for the existing detainee population, and for a new detainee' [and] . . . officers must know the type of person whom they are detaining, and DNA allows them to make critical choices about how to proceed"; *id.*, 452; (3) "the [g]overnment has a substantial interest in ensuring that persons accused of crimes are available for trials"; (internal quotation marks omitted) *id.*; (4) "an arrestee's past conduct is essential to an assessment of the danger he poses to the public, and this will inform a court's determination whether the individual should be released on bail"; *id.*, 453; and (5) "in the interests of justice, the identification of an arrestee as the perpetrator of some heinous crime may have the salutary effect of freeing a person wrongfully imprisoned for the same offense." *Id.*, 455. The court then characterized the defendant's privacy interest as "a minimal one"; *id.*, 461; considering an arrestee's "diminished expectations of privacy" and the "minimal [intrusion]" of the buccal swab within the context of the "approved standard procedures [previously] detailed" (Internal quotation marks omitted.) *Id.*, 463. The court also observed that the tested DNA at issue did not reveal the genetic traits of the arrestee, although "progressions [in science] may have [f]ourth [a]mendment consequences" *Id.*, 464. Finally, it repeated that "the [Maryland DNA Collection] Act provides statutory protections that guard against further invasion of privacy." *Id.*, 465. The court concluded that, "[i]n light of the context of a valid arrest supported by probable cause [the defendant's] expectations of privacy were not offended [In] that same context . . . taking and analyzing a cheek swab . . . is,

like fingerprinting and photographing, a legitimate police booking procedure that is reasonable under the [f]ourth [a]mendment.” Id., 465–66.

The court in *King* therefore held that, upon arrest, the defendant did not have a reasonable expectation of privacy in the identifying information obtained as a result of the physical intrusion of the buccal swab, from which the state extracted and tested his DNA, after balancing the state’s interests and his privacy interests in light of his status as an arrestee whom the police had probable cause to take into custody. None of the state’s interests in *King* applies in the present case because each interest requires, at a minimum, that probable cause exist for an arrest. It is important at that point for the government to be able to identify that individual, to confirm that the arrest was lawful or to dispel suspicion that the arrestee was indeed the perpetrator, and that the government is able to determine, if shown through the DNA testing, “the type of person whom [it is] detaining”; id., 452; so as to protect other individuals in custody and the staff in that facility from the dangers that a particular inmate might pose. Cross-referencing the testing of the DNA sample that a defendant is required to submit with samples collected from individuals pursuant to Maryland’s DNA Collection Act after prior convictions or arrests, or with other information, allows the state to determine how best to safeguard the premises. But that danger does not exist in this case.

The majority suggests that there is no difference between the privacy interests of arrestees and individuals who have not been arrested.¹⁸ But *King*’s rationale

¹⁸ The majority states: “Although we acknowledge that certain aspects of the *King* analysis were specific to the custodial status of the defendant in that case, the United States Supreme Court’s discussion of STR testing and its limited nature, as well as the minimal privacy interest in the information encoded within the thirteen CODIS loci, was not unique to that context.” Part I B of the majority opinion.

explicitly states that there is such a difference, and that difference is why at least the extraction in that case was permissible: “In this *critical* respect, the search . . . at issue differs from the sort of programmatic searches of either the public at large or a particular class of regulated but otherwise law-abiding citizens that the [c]ourt has previously labeled as special needs searches. . . . Once an individual has been arrested on probable cause for a dangerous offense that may require detention before trial . . . his or her expectations of privacy and freedom from police scrutiny are reduced. DNA identification like that at issue . . . thus does not require consideration of *any unique needs that would be required to justify searching the average citizen.*” (Citations omitted; emphasis added; internal quotation marks omitted.) *Id.*, 462–63. The majority works around this express language, however, asserting that the extraction of the sample of the defendant’s DNA in the present case, despite failing to align with the balancing considerations stated in *King*, is constitutional because it did not involve a bodily invasion similar to a buccal swab, and that the testing of the defendant’s shed DNA is constitutional because, according to the majority, it reveals only his identity. See part II of the majority opinion. The majority further states that, “[a]lthough the buccal swab collection constituted a search . . . the court did not apply the *Katz* reasonable expectation of privacy framework. Instead, it analyzed the constitutionality of the search by balancing the individual’s privacy interests against the legitimate interests of law enforcement.” (Citation omitted.) Part I B of the majority opinion. But the very point of the application of a balancing test in *King* was to determine objectively what society would accept as reasonable, given the defendant’s position in that case as an arrestee. See *Maryland v. King*, *supra*, 569 U.S. 447 (“the ultimate measure of the constitutionality of a governmental search is ‘reasonableness’”).

In my view, the majority's piecemeal reading of *King* is not persuasive, particularly because it omits any discussion of *King's* analysis of whether the *collection*—or, in other words, extraction—of the sample of the defendant's DNA, was reasonable. By the majority's interpretation of *King*, the defendant's custodial status in that case was instrumental to the court's holding that it was reasonable for the state, under the Maryland DNA Collection Act, to extract his DNA by using a buccal swab. It should follow, then, that the majority would consider that the government did not have probable cause to search or seize the defendant in this case when his DNA was extracted from his garbage. But, in any case, given that our inquiry into an individual's expectation of privacy is necessarily fact dependent, and therefore must consider, at least, the particular circumstances of the privacy intrusion at stake, I find splitting the defendant's reasons, given his circumstances, for expecting a certain level of privacy in his DNA—his custodial status and the physicality of the intrusion—unfitting. See 79 C.J.S., *supra*, pp. 38–40 (factors for determining reasonable expectation of privacy are fact-specific but often involve (1) nature of invasion, (2) custodial status of person claiming privacy violation and (3) person conducting invasion). Further, the fact that the physical intrusion in this case was minimal compared to that of a buccal swab is hardly dispositive. Multiple United States Supreme Court cases have held that the fourth amendment's protection extends to circumstances that include no bodily intrusion whatsoever. See, e.g., *Carpenter v. United States*, *supra*, 585 U.S. 303–305 (cell site location data); *Riley v. California*, *supra*, 573 U.S. 393 (search of cell phone contents); *United States v. Jones*, *supra*, 565 U.S. 403 (installation of tracking device on vehicle). Further, as previously discussed, it is arguable whether the test the state used in the present case could reveal only the defendant's

identity, given that it revealed the presence of thirteen STR loci, which, at a minimum, can currently reveal an individual's genealogical history.

In short, all that *King* has in common with the present case is that both concern a defendant's DNA. *King* supports the notion that, like fingerprinting, in some circumstances, *but not all circumstances*, there is no reasonable expectation of privacy in the identifying information gleaned from the extraction and testing of DNA samples. *King* not only involved arrestees but was premised on Maryland's DNA Collection Act, which manifests its own unique legislative indications of what expectations of privacy might be considered reasonable under Maryland law, making that case fundamentally distinguishable from the unfettered ability of the state in the present case to gather shed DNA from the public at large. Connecticut's legislature and courts can, and should, play a key role in voicing when it is considered reasonable for Connecticut residents to expect that a court will have to authorize the testing and storage of DNA surreptitiously collected. I therefore find it confounding that the majority is silent on this important issue, avoiding any discussion of the relevant Connecticut statutes, which, as previously detailed, largely parallel the Maryland DNA Collection Act, differing only in that Connecticut law offers privacy protections to a *broad*er class of arrestees and requires a DNA sample only from those arrested for the commission of a "serious felony" who have previously been convicted of a felony but had not submitted to DNA extraction at that time. General Statutes § 54-102g (a); see also part II A of this opinion. With this context, I would not, as the majority does, so quickly presume that *King* provides this court with a reasonable degree of certainty as to how the United States Supreme Court would resolve whether the defendant in the present case had an objectively reasonable expectation of privacy in the extrac-

tion and testing of his DNA under the fourth amendment. Instead, I believe the more reasonable reading of *King* supports, even if it does not endorse with certainty, a conclusion that the defendant in the present case maintains a reasonable expectation of privacy in the extraction and testing of his shed DNA, given his custodial status (or lack thereof), when the extraction and testing were performed.

I find more instructive recent United States Supreme Court cases that involve the privacy interests of those who have not been arrested, which the majority side-steps. See, e.g., *Carpenter v. United States*, supra, 585 U.S. 296; *United States v. Jones*, supra, 565 U.S. 400. In my view, these cases provide a clearer picture as to whether the high court would recognize an expectation of privacy in the extraction, testing, and storage of an individual's DNA when he has not been arrested. The majority presumes that, because the state in this case used the DNA sample only to detect thirteen loci that can, among other things, reveal identity, the defendant maintained no reasonable expectation of privacy in that information (even though the state presumably continues to store it). But, to the contrary, the United States Supreme Court has held on multiple occasions that individuals like the defendant have a reasonable expectation of privacy in very similar information precisely because of what else that information might reveal, particularly when that information is gleaned using sophisticated technology not in common use. See *Kyllo v. United States*, supra, 533 U.S. 34 (homeowner had reasonable expectation of privacy in sensitive information federal agents gleaned using thermal imaging device on outside of home to detect indoor activity because device was not in general public use). For example, in *Carpenter*, the high court held that it was the more than four months of cell site location data that the government had obtained that violated the

defendant's right to privacy rather than the narrower data set that the government used at trial to place the defendant's phone near the locations of some of the charged crimes. *United States v. Carpenter*, *supra*, 302–303. The government did not pry into the “‘privacies of life’” that existed within those more than four months of data; *id.*, 311; much like the government in the present case represents that it has not pried into the full scope of information that can be gleaned from the sample of the defendant's DNA. But the fact that the government in *Carpenter* had *access* to that information—just as the government in this case has *access* to the stored samples of DNA from the defendant and his three family members—informed the defendant's privacy rights in *Carpenter*, particularly considering the seismic shift in technology at issue in that case. *Id.*, 313. Similarly, in *Birchfield*, the high court held that the information gleaned from a blood sample violated the defendant's right to privacy because the sample “can be preserved and . . . it is possible to extract information [from it] beyond” the government's initial stated purposes. *Birchfield v. North Dakota*, *supra*, 579 U.S. 464. Although the compelled blood tests in *Birchfield* were a significant “‘physical intrusion,’” that was only one aspect of what the court considered in determining whether a reasonable expectation of privacy existed in that case. *Id.*, 463; see also *State v. Burns*, *supra*, 988 N.W.2d 384 (Oxley, J., dissenting) (“we are determining whether the officers' actions—processing the DNA to collect unique identification information to use in a criminal investigation—violated an *expectation of privacy* society is prepared to recognize as reasonable” (emphasis in original)).

Indeed, in *Carpenter*, there was no physical intrusion whatsoever. And, in *Jones*, as mentioned, the physical intrusion was minimal and did not involve the defendant's body, but instead was limited to a tracking device

that the police had placed on the defendant's car. See *United States v. Jones*, supra, 565 U.S. 404. In fact, the United States Supreme Court has held that police conduct in moving stereo equipment mere inches to determine, by referencing its serial number, whether the item was stolen constituted an unlawful search. See *Arizona v. Hicks*, 480 U.S. 321, 325, 107 S. Ct. 1149, 94 L. Ed. 2d 347 (1987). Therefore, the majority's assertion that the lack of bodily physical intrusion of the defendant's person when extracting and testing his shed DNA means that his privacy interest in that extraction and analysis was negligible is contradicted by several recent United States Supreme Court precedents.

The majority also underplays the significance of *Riley v. California*, supra, 573 U.S. 403, which stands for the proposition that the state may not search the contents of a cell phone without a warrant, even if it has lawfully seized the cell phone. The majority claims that circumstance differs entirely from the circumstances in the present case because, in *Riley*, unlike the DNA collection, testing, and storage that occurred in this case, "nothing limits the police from obtaining 'a broad array of private information' apart from self-imposed constraints." Part I B of the majority opinion. Therefore, the majority continues, the privacy implications inherent in *Riley* "about the police potentially discovering more information than they seek [are] . . . not present under the facts of this case." Id. But nowhere does the majority offer any assurance that, once the state has collected and stored the DNA, the state or anyone else, such as hackers or individual governmental actors, will be prevented from obtaining other information from the samples of the DNA from the defendant or his three family members. And, of course, neither the majority nor the state can credibly offer that assurance.

In contrast, for individuals covered by the statutory scheme I have previously detailed; see General Statutes

§ 54-102g; the legislature has laid out whose DNA may be extracted, tested, and stored for identification purposes, and the privacy protections afforded to those individuals. But, for persons like the defendant, or the other three people whose DNA the state extracted, tested, and is presumably storing to this day, I see no protections in place, despite the asserted assumption by the state at oral argument that the government would handle the defendant's DNA under the purview of § 54-102g, even though the defendant did not consent to his DNA being sampled and did not otherwise fall under the strictures of that statutory scheme when his DNA was extracted and tested.¹⁹ The majority's contention that the DNA testing kit that was used revealed only the defendant's identity is hardly a protection, given that the government will presumably retain the defendant's sample for an indeterminate period of time and that those thirteen loci that the test revealed *can disclose more than just identity*. See part II of this opinion.

The majority's assessment of why *Riley* is distinguishable from the present case begins and ends with its unsupported conclusion that there are limitations in place when it comes to what the government may learn from the DNA of a person whom the government lacks probable cause to search or seize and that was extracted from a lawfully seized object. Because this analysis is dubious, it is worth pausing to understand why the analogy between DNA and cell phones is significant and the majority's analysis of *Riley* is dubious, particularly given my previous discussion about the false analogy between DNA and fingerprints. See part III A of this opinion. "The term 'cell phone' is itself misleading short-

¹⁹ During oral argument, the state asserted that "the state lab, they have strict rules about . . . whose DNA gets kept, whose DNA can be put into [the Combined DNA Index System (CODIS), a searchable statewide DNA database containing the DNA profiles of convicted felons]." See footnote 2 of the majority opinion.

hand; many of these devices are in fact minicomputers that also happen to have the capacity to be used as telephones. They could just as easily be called cameras, video players, rolodexes, calendars, tape recorders, libraries, diaries, albums, televisions, maps, or newspapers. One of the most notable distinguishing features of modern cell phones is their immense storage capacity. Before cell phones, a search of a person was limited by physical realities and tended as a general matter to constitute only a narrow intrusion on privacy. . . . Most people cannot lug around every piece of mail they have received for the past several months, every picture they have taken, or every book or article they have read—nor would they have any reason to attempt to do so. . . . But the possible intrusion on privacy is not physically limited in the same way when it comes to cell phones. The current top-selling smart phone has a standard capacity of 16 gigabytes (and is available with up to 64 gigabytes). Sixteen gigabytes translates to millions of pages of text, thousands of pictures, or hundreds of videos.” (Citation omitted.) *Riley v. California*, supra, 573 U.S. 393–94. In short, the government in *Riley* could not search the contents of cell phones, even after a legal seizure, because the advanced technology of the modern age makes such an intrusion unreasonable. In the same way, the government in the present case should not be able to extract the DNA of a person whom the government lacked probable cause to search or seize simply because that person abandoned an object that had his DNA on it. And, given that the government stores the DNA sample that it extracts, there is, in my view, very much a concern about the government—as the majority assures us it will not—“potentially discovering more information than [it] seek[s]”; part I B of the majority opinion; particularly given *Riley*’s emphasis on what *might* be gleaned from a cell phone in the future: “We expect that the gulf between physical

practicability and digital capacity will only continue to widen in the future.” *Riley v. California*, supra, 394.

Further, the question must, ultimately, be whether the defendant has a reasonable expectation of privacy in the extraction of a sample of his shed DNA and the testing of that sample for identification purposes. Because our case law and the public policy considerations that our statutes articulate support the defendant’s state constitutional claim, the fact that federal case law supports protection beyond that identifying information merely supplements the persuasiveness of the defendant’s arguments. Therefore, I am simply not persuaded that the majority affords proper weight to these United States Supreme Court decisions, particularly in conjunction with the case law and public policy of our state.

Instead, with *Carpenter*, *Birchfield*, *Jones* and *Riley* in mind, I find persuasive other federal precedent suggesting that the defendant enjoys a reasonable expectation of privacy in his DNA, principally *United States v. Davis*, supra, 690 F.3d 246–47. Unlike *King*, which concerned only DNA extracted from arrestees, *United States v. Davis*, supra, 226, considered the question before this court today and determined that the defendant in that case did, in fact, have a reasonable expectation of privacy in the extraction of a sample of his shed DNA from his clothing, which had been lawfully seized, even though the government lacked probable cause to search or seize him, and in the subsequent testing of that DNA. *Id.*, 248–49. Four years before the murder with which the defendant had been charged, the police, while acting in a community caretaking function; see *State v. Jackson*, supra, 304 Conn. 404; took clothing the defendant had worn from the hospital room in which he was lying, without his permission or a warrant, after he had been wounded in a shooting incident. *United States v. Davis*, supra, 230. Four years later, the police in another county investigating a different crime learned

about the existence of the clothes, requested and obtained them without a warrant, extracted his DNA from them and retained his DNA profile in a DNA database. *Id.*, 231. The United States Court of Appeals for the Fourth Circuit held that the extraction and testing of the defendant's DNA sample from the database corresponding to the four year old incident constituted an unreasonable search, largely because of the defendant's status as an individual whom the government lacked probable cause to search or seize at the time of the extraction. See *id.*, 246.

The majority contends that *United States v. Davis*, *supra*, 690 F.3d 226, does not apply because it was decided ten months prior to *King*. As I have explained, I find *Davis* distinguishable from *King* on its facts, and so the timing of it does not, in my view, call into question its validity. Indeed, post-*King*, the Fourth Circuit has referred to *Davis* several times, suggesting that the court considers it good law. See, e.g., *United States v. Stephens*, 764 F.3d 327, 336 (4th Cir. 2014) (“[W]e held that the exclusionary rule did not apply where officers engaged in an *unconstitutional search* by extracting and testing the defendant's DNA sample during a murder investigation without a warrant. We explained that the [United States] Supreme Court's recent decisions applying the exception have broadened its application, and lead us to conclude that the [f]ourth [a]mendment violations here should not result in application of the exclusionary rule.” (Emphasis added; internal quotation marks omitted.)), cert. denied, 577 U.S. 817, 136 S. Ct. 43, 193 L. Ed. 2d 27 (2015). Therefore, based on the language of *King* itself, the other jurisprudence of the United States Supreme Court, and the Fourth Circuit's decision in *Davis*, I am not persuaded that this court can predict with “a reasonable degree of certainty,” as the majority claims, how the United States Supreme Court would resolve the issue under federal law.

As the majority notes, several scattered federal district court decisions align with its conclusion. But those decisions rely on the factually laden doctrine of abandonment in holding that any privacy interest a defendant has in his DNA is overcome by his lack of a privacy interest in the abandoned object. See, e.g., *United States v. Green*, Docket No. 12-CR-83S, 2016 WL 3610331, *9–10 (W.D.N.Y. July 6, 2016) (there was no reasonable expectation of privacy in DNA taken from disposed, bloodstained tissue); *Parisi v. Artus*, Docket No. 08-CV-1785 (ENV), 2010 WL 4961746, *6 (E.D.N.Y. December 1, 2010) (“a suspect arrested upon probable cause does not have a reasonable expectation of privacy in items discarded while in police custody, even if his DNA is later collected from them”). While citing case law that supports its conclusion but relies on the abandonment doctrine, the majority tries hard to avoid demonstrating that the defendant abandoned any privacy interest in his DNA or the state’s extraction, testing and storage of his DNA, by assiduously avoiding use of the word “abandon.” See part II of this opinion. For the same reason that the majority eschews express reliance on the doctrine, I do not consider these federal cases that rely on abandonment of an interest in DNA in their analyses to have persuasive value for the question before this court, given that, as I have discussed, shed DNA does not comport with the doctrine of abandonment.

Taken together, therefore, in my view, federal precedent supports, rather than detracts from, the defendant’s objectively reasonable privacy interest in the extraction of the sample of his DNA and the testing of that sample to reveal his identifying information. *King* supports the defendant’s position because its analysis relies on the custodial status of the defendant in that case and the legislative articulations of his reasonable expectation of privacy based on that status. *Carpenter*,

Birchfield and *Riley* support the defendant's position because each case demonstrates that the proper inquiry as to whether an individual has a reasonable expectation of privacy, at least when it comes to complex technology used by the government, includes the full scope of the information the government has access to deciphering, not the information that it actually used. *Carpenter*, *Riley* and *Jones* further support the defendant's position because they clarify that the state need not physically infringe on a person's body to deprive him of his privacy rights, giving meaning to *Katz*' famous admonition that "the [f]ourth [a]mendment protects people, not places." *Katz v. United States*, supra, 389 U.S. 351. Finally, *Davis* supports the defendant's position—and is contrary to the majority's resolution of the present case—because it squarely addresses the extraction and testing issues that this court faces in the present case regarding the DNA samples of those whom the government lacks probable cause to search or seize and is therefore distinguishable from *King*.

D

Finally, this court often looks to the precedent of other state courts to assess whether a defendant has a reasonable expectation of privacy in the extraction of a sample of his DNA and the identifying information gleaned from testing that sample. The majority is correct that the precedent of other state courts, much of which relies on an interpretation of federal jurisprudence or the doctrine of abandonment, does not clearly support the defendant's position. Regardless, when it comes to affording the residents of this state greater constitutional rights than does the federal constitution, including greater privacy rights, this court has not concerned itself with counting noses. See, e.g., *Kerrigan v. Commissioner of Public Health*, supra, 289 Conn. 246 ("[a]lthough the decision of the California Supreme Court [in *In re Marriage Cases*, 43 Cal. 4th 757, 183

P.3d 384, 76 Cal. Rptr. 3d 683 (2008)] and the dissenting opinion of Chief Judge [Judith S.] Kaye [in *Hernandez v. Robles*, 7 N.Y.3d 338, 855 N.E.2d 1, 821 N.Y.S.2d 770 (2006)] reflect the minority position [regarding granting suspect status or quasi-suspect to gay persons], we believe that they nevertheless represent the most persuasive sister state precedent”). In fact, this would not be the first time that we have held that article first, § 7, of our state constitution affords greater protection than does the fourth amendment to the United States constitution, landing us among a minority of state courts. See, e.g., *State v. Miller*, supra, 227 Conn. 386–87 and n.19 (warrantless search of impounded automobile violates article first, § 7, of Connecticut constitution, notwithstanding “that most states facing this issue have adopted the [rule set forth in *Chambers v. Maroney*, 399 U.S. 42, 90 S. Ct. 1975, 26 L. Ed. 2d 419 (1970)] as a matter of state constitutional law”); *State v. Marsala*, 216 Conn. 150, 171 n.14, 579 A.2d 58 (1990) (although good faith exception to exclusionary rule established in *United States v. Leon*, 468 U.S. 897, 104 S. Ct. 3405, 82 L. Ed. 2d 677 (1984), does not exist under Connecticut constitution, it “has received mixed reviews in other state courts that have considered its application”).

In any case, in my view, it is incorrect to say that the precedent of other state courts uniformly rejects the defendant’s position. The Supreme Court of Arizona has, in the last year, held that the police violated the fourth amendment when they created a DNA profile of the defendant after he consented to a blood draw that was for the purpose of determining his blood alcohol content, because “[a] typical reasonable person . . . would not have understood that consenting to the blood draw for the limited purpose of determining alcohol concentration or drug content also included consenting to the creation of a DNA profile, especially years later.” *State v. Mitcham*, 258 Ariz. 432, 440, 559 P.3d 1099

(2024), cert. denied, U.S. , 145 S. Ct. 1965, 221 L. Ed. 2d 741 (2025). Moreover, state courts have not been unanimous on the question in this case, or related issues involving DNA identification of those individuals whom the government does not have probable cause to search or seize. In Iowa, for example, the majority opinion in *Burns*, which is consistent with the majority opinion in the present case, was accompanied by three separate opinions. See *State v. Burns*, supra, 988 N.W.2d 368; see also id., 372 (McDonald, J., concurring); id., 382 (Oxley, J., dissenting); id., 388 (McDermott, J., dissenting). In Maryland, the majority in *Raynor v. State*, supra, 440 Md. 71, which is also consistent with the majority's result in the present case; see id., 75; was a close 4-3 decision with a spirited dissent. See id., 97 (Adkins, J., dissenting). In short, I am not the only one shouting about what the majority describes as the “parade” of horrible outcomes. The mere fact that the precedents of other state courts do not uniformly support the defendant's position—or the state's position, for that matter—does not change that the law of *our state does* support the defendant's position.

Further, in my view, much of the precedent of other state courts that does not support the defendant's position does not apply to the present case, either because it relies on an abandonment framework to arrive at its conclusion, which, as I have detailed, cannot logically be extended to shed DNA, or because it relies on questionable scientific conclusions. The majority in the present case treads cautiously around its abandonment analysis, acknowledging that “people can do very little—if anything at all—to completely prevent certain materials that contain DNA from shedding”; part I A of the majority opinion; which also contain “ ‘vast amount[s] of sensitive information’ ”; part I B of the majority opinion; all while premising its conclusion on the defendant's abandonment of his privacy interest in his DNA

by virtue of having taken out his trash, even as the majority takes great pains to avoid the word “abandon.” At least one other court would say that a defendant has no reasonable privacy interest in his DNA under the federal constitution because of the limited information that can be harvested from trace DNA, which, as I noted in part II of this opinion, is not necessarily accurate. See *Raynor v. State*, supra, 440 Md. 82, 85 (there was no reasonable expectation of privacy in DNA left on chair during police interview because such DNA could not reveal “intimate genetic information”). The majority’s inconsistency lines up with the precedent of other state courts that the majority relies on for support; see, e.g., *State v. Burns*, supra, 988 N.W.2d 365; but the majority ignores countervailing views and undertakes no cogent analysis of how, precisely, shed DNA can fit within the doctrine of abandonment. See, e.g., *Maryland v. King*, supra, 569 U.S. 470 (Scalia, J., dissenting); *United States v. Davis*, supra, 690 F.3d 246–47; *State v. Burns*, supra, 384–85 (Oxley, J., dissenting).

IV

My review of the *Geisler* considerations leads me to conclude that the defendant in this case—like all Connecticut residents whom the state does not have probable cause to arrest—maintained a reasonable expectation of privacy in the extraction of a sample of his DNA and the testing of that sample for identification purposes under article first, § 7, of the Connecticut constitution. Both the case law of this state and the public policy underlying that case law support my conclusion, given that “[l]egislative enactments are’ . . . relevant to the resolution of whether the defendant’s expectation of privacy is one that Connecticut citizens would recognize as reasonable”; (citation omitted) *State v. Bernier*, supra, 246 Conn. 73; and the legislature’s indication that some arrested and convicted persons maintain a reasonable expectation of privacy in the identifying

information gleaned from their DNA. See General Statutes § 54-102g. Federal precedent also supports my conclusion, and I do not consider the precedent of other state courts on this issue to hold much persuasive value because, first, it is mixed, both in its conclusions and its approach to abandonment, and, second, much of that precedent makes the same cardinal mistake that the majority makes in this case: addressing the question presented based on mistaken and dated scientific conclusions. Further, even putting aside the science, I am confident that this state's law and policy support the defendant's position and that those considerations are most important to addressing the issue before the court. For these reasons, I would reverse the defendant's conviction and remand the case for a new trial in which the government is tasked with retrying the defendant without evidence that infringes on his privacy rights under article first, § 7, of the Connecticut constitution.

I respectfully dissent in part.
