

IN THE COURT OF APPEALS FOR THE STATE OF ALASKA

STEVEN HARRIS DOWNS,

Appellant,

v.

STATE OF ALASKA,

Appellee.

Court of Appeals No. A-14068
Trial Court Case No. 4FA-19-00504CR

VRA AND APP. R. 513.5 CERTIFICATION

I certify that this document and its attachments do not contain (1) the name of a victim of a sexual offense listed in AS 12.61.140 or (2) a residence or business address or telephone number of a victim of or a witness to any offense unless it is an address used to identify the place of the crime or it is an address or telephone number in a transcript of a court proceeding and disclosure of the information was ordered by the court. I further certify, pursuant to App. R. 513.5, that the font used in this document is Times New Roman 13.

APPEAL FROM THE SUPERIOR COURT OF THE STATE OF ALASKA
FOURTH JUDICIAL DISTRICT AT FAIRBANKS
THE HONORABLE THOMAS I. TEMPLE

**AMICUS BRIEF OF THE NATIONAL ASSOCIATION OF CRIMINAL
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STATEMENT OF INTEREST OF AMICUS CURIAE

The National Association of Criminal Defense Lawyers (“NACDL”) is a nonprofit voluntary professional bar association that works on behalf of criminal defense attorneys to ensure justice and due process for those accused of crime or misconduct. NACDL is dedicated to advancing the proper, efficient, and just administration of justice. NACDL files numerous amicus briefs each year in federal and state courts, seeking to provide amicus assistance in cases that present issues of broad importance to criminal defendants, criminal defense lawyers, and the criminal justice system as a whole.

This case presents a question of great importance to NACDL and the clients its attorneys represent. The trial court’s decision misapplies well-settled Fourth Amendment law in a way that would erode constitutional protections concerning an individual’s sensitive, information-rich DNA. NACDL has a strong interest in protecting the right of citizens to be free from unreasonable searches and seizures, and in ensuring that application of the law to evolving technologies is constitutional and fair. NACDL therefore files this brief in support of petitioner.

I. INTRODUCTION AND SUMMARY OF ARGUMENT

In the colonial era, British officers rummaged through homes and storehouses in an unrestrained search for crumbs pointing to criminality. The Founders, in response to this oppressive practice, enshrined “[t]he right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures.” U.S. Const. amend. IV. The Supreme Court has since consistently ensured these principles remain protected in the face of emerging technologies. The trial court’s decision here, however,

paradoxically allows modern technological innovations to drag the law backwards, and does so based on a misapplication of jurisprudence that was meant to guard against Colonial-era general searches.

DNA is literally the most personal information that exists—it reveals innumerable sensitive facts about a person, including their familial relationships, congenital health conditions, potential struggles with depression and substance abuse, and propensity for developing everything from dyslexia to schizophrenia. In holding that petitioner had no expectation of privacy in his own DNA data, the trial court placed form over substance, and ignored the staggering implications of its holding on individual privacy. The court’s decision contravenes the Fourth Amendment in three principal ways.

First, the decision is incompatible with an originalist understanding of the Fourth Amendment. The Framers could not have conceived of a regime in which the government lawfully could leverage a family member’s anonymous disclosure of information about themselves into an opportunity to rummage broadly through a mountain of a suspect’s most personal information. The Fourth Amendment was ratified precisely to guard against such unreasonable government overreaches.

Second, the decision also violates controlling Supreme Court jurisprudence in the context of emerging technology. The trial court failed to analyze or apply the proper framework for evaluating Downs’s privacy interests in the context of emerging technology under *Carpenter v. United States*. That framework compels the conclusion that the government’s conduct here constituted a search and required a warrant.

Third, in addition to its legal defects, the trial court’s decision fails to account for

the practical implications of holding that an individual has no privacy right in their own, undisclosed DNA information. That holding and reasoning are problematic today, and will only become more so as the power and scope of DNA analysis expands. This Court should reverse.

II. FACTUAL BACKGROUND

This case arises from a 1993 homicide on the campus of University of Alaska Fairbanks. [R. 343-51, 2220-21]. A suspect profile was eventually developed based on fingerprint, hair, fiber, and fluid swabs taken at the scene, but no matches were found for decades. [Tr. 3678-82, 3758-65, 3846, 3858, 4529].

Over 20 years later, in 2018, an Alaska state trooper asked Parabon Nanolabs (“Parabon”) to develop a single nucleotide polymorphism (SNP) profile from the suspect DNA and upload it into the GEDmatch database in order to do a familial search. [Tr. 815, 1357-59]. GEDmatch is a raw data repository that serves as a comparison database into which individuals are able to upload their previously tested DNA in an effort to find members of their families. [Tr. 1245, 1249]. The use of an SNP profile provides the power to detect distant relationships including second, third, fourth, and fifth cousins, and beyond. [R. 3422]. At the time GEDmatch was utilized for this case, the database included the genealogical data of about 1.2 million people. [Tr. 1224].

Parabon obtained a list of matches along with information related to shared segments of DNA, percentage of shared DNA, and associated names/aliases and email addresses. [Tr. 1250]. Parabon then used online social media accounts and public records databases to fill out the family tree for the matches it had found and identified as possible

or likely sources for the suspect DNA. [Tr. 815, 1218-19; R. 3647-48].

Parabon located a partial match with a GEDmatch user (known now as M.H.), who had uploaded her DNA profile—under an alias—to search for relatives. [Tr. 1249, R. 3427-28]. Parabon used this match to compile a report that included the chromosome locations for 63 matching segments of DNA and concluded that the target of the search had a Y-chromosome DNA haplogroup associated with Northern or Eastern Europe, likely had North European ancestry, and likely had fair skin, hazel or brown eyes, brown hair, and freckles. [R. 3645; Tr. 1241]. Parabon further used various online public records databases to map out M.H.’s family tree [Tr. 1228], eventually identifying Downs as a potential source of DNA. [Tr. 1228-29]. Once Downs was identified, Parabon included in its report a summary of where Downs had lived throughout his life, who his family members were, and even details regarding his property deed and mortgage. [R. 3645-46, 3648-49].

This report was provided to law enforcement. [R. 3433]. Downs’s DNA purportedly matched the suspect profile from S.S.’s fluid swabs, but his fingerprints did not match any of the prints taken from the scene, nor was he a match for the hair and fiber evidence collected. [Tr. 4262]. Downs was arrested in 2019 and charged with the murder of S.S as a result of M.H.’s anonymous upload. [R. 327, 2220-21].

Downs filed a motion to suppress the evidence obtained from GEDmatch. [R. 279-86, 573-74]. The trial court denied the motion. [R. 34-48, 1435-43]. First, it held Downs lacked standing because his DNA had not been analyzed—only M.H.’s had been. [R. 1437-39]. Second, in the alternative, the court found that law enforcement did not violate either Downs’s or M.H.’s right to be free from unreasonable searches because neither had a

reasonable expectation of privacy in this information. [R. 1440-42]. According to the court, Downs failed to prove he had a subjective or objective expectation of privacy in his “aunt’s DNA profile.” [R. 1440]. M.H. also had no subjective expectation of privacy, the court explained, because, despite using an alias, she had voluntarily shared her DNA with GEDmatch after being warned by the site that her identity could not be protected. [R. 1440-42].

III. ARGUMENT

A. Under Bedrock Fourth Amendment Precepts, the State’s Information Trawling Was a Quintessential Search Subject to the Warrant Requirement.

The starting point for a Fourth Amendment analysis is a “historical understanding[] ‘of what was deemed an unreasonable search and seizure when the Fourth Amendment was adopted.’” *Carpenter v. United States*, 138 S. Ct. 2206, 2214 (2018) (alterations omitted) (quoting *Carroll v. United States*, 267 U.S. 132, 149 (1925)); *see also N.Y. State Rifle & Pistol Ass’n, Inc. v. Bruen*, 142 S. Ct. 2111, 2136 (2022) (“Constitutional rights are enshrined with the scope they were understood to have when the people adopted them.” (citation and emphasis omitted)); *Boyd v. United States*, 116 U.S. 616, 624-25 (1886) (in determining the meaning of the Fourth Amendment, courts look to “the contemporary or then recent history of the controversies on the subject, both in this country and in England”). Conduct is a “search” if “such a physical intrusion would have been considered a ‘search’ within the meaning of the Fourth Amendment when it was adopted.” *United States v. Jones*, 565 U.S. 400, 404-05 (2012). Under that rubric, it is inconceivable that the Framers would have countenanced the State’s conduct here—surreptitiously extrapolating

from an unwitting person's pseudonymous DNA submission to generate evidence used to convict a relative.

“The Founding generation crafted the Fourth Amendment as a ‘response to the reviled “general warrants” and “writs of assistance” of the colonial era,” which allowed British officers to rummage through homes in an unrestrained search for evidence of criminal activity. *Carpenter*, 138 S. Ct. at 2213 (quoting *Riley v. California*, 573 U.S. 373, 403 (2014)). The landmark case of *Entick v. Carrington*, from 1765, illustrates both the abuses of general warrants and the development of colonial jurisprudence to rein in such abuses. See *Stanford v. Texas*, 379 U.S. 476, 483 (1965); see also Laura K. Donohue, *The Original Fourth Amendment*, 83 U. Chi. L. Rev. 1181, 1194 (2016). In that case, royal officers used a general warrant to spend four hours ransacking the home of an English publisher whose paper had criticized the Crown, hoping to find incriminating evidence about other contributors to the paper. *Stanford*, 379 U.S. at 483-84. The publisher sued, and the colonial court ruled in his favor, holding that “[p]apers are the owner’s goods and chattels . . . they are his dearest property; and are so far from enduring a seizure, that they will hardly bear an inspection.” Donohue, *supra*, at 1198.

Similarly loathed were writs of assistance, which John Adams described as a key part of Britain’s design for “conquering the English colonies, and subjecting them to the unlimited authority of Parliament.” 10 *Works of John Adams* 246 (C. Adams ed. 1856). The writs empowered “custom house officers, tidewaiters, landwaiters, and all, to command all sheriffs and constables, . . . to attend and aid them in breaking open houses, stores, shops cellars, ships, bales, trunks, chests, casks, packages of all sorts, to search for

goods, wares, and merchandises, which had been imported against the prohibitions or without paying . . . taxes.” *Id.* Colonists became ever more concerned by intrusions into their homes and businesses, because the writs of assistance gave officials carte blanche access to ships, warehouses and homes, and all persons, papers and effects in them. *See Marshall v. Barlow’s, Inc.*, 436 U.S. 307, 311-12 (1978); Donohue, *supra*, at 1244. The colonists’ contempt for these searches cannot be overstated. John Adams decried the writ as a “terrible menacing monster.” Adams, *supra*, at 217.

The trial court’s decision here threatens to resurrect this “monster,” albeit cloaked in modern garb. Using DNA data from a single individual without their knowledge, police can glean in a few minutes what British customs officers could only dream of searching under even the most expansive general warrant or writ of assistance. In doing so, modern police make a suspect’s relatives their unwitting assistants. This happens whenever a person pseudonymously uploads DNA to a public website—an increasingly common part of everyday life—without the knowledge or consent of the suspect or any other relative. By way of analogy, this would be akin to a British customs official gaining access to a person’s home, scouring their private papers to uncover intimate details about the homeowner and their correspondents, and then using the fruits of that undertaking to target those correspondents. Such a scenario echoes *Entick*, in which officers searched the publisher’s home high and low to find evidence implicating his colleagues. The use of technology to achieve the same ends does not make those ends any more constitutionally permissible. If anything, the far broader array of information that DNA searches now reveal makes the DNA sleuthing at issue here far *more* intrusive than historically prohibited

searches. Such an unwarranted search is incompatible with an original understanding of the Fourth Amendment, and does not pass constitutional muster. *See Carpenter*, 138 S. Ct. at 2214; *Jones*, 565 U.S. at 406 n.3 (“Whatever new methods of investigation may be devised, [a court’s] task, *at a minimum*, is to decide whether the action in question would have constituted a ‘search’ within the original meaning of the Fourth Amendment.”).

B. The Court’s Approach to Third-Party DNA Website Data Departs from the Supreme Court’s *Carpenter* Framework for Evolving Technology.

The trial court’s ruling is at odds not just with an originalist understanding of the Fourth Amendment but also with controlling Supreme Court jurisprudence prescribing how to determine whether a search is unreasonable in the context of emerging technology.

This case is far from the first in which courts have been confronted with a technological advance that would facilitate unconstitutional intrusions. In the case of other technologies—ranging from powerful directional microphones to thermal imaging cameras, and from GPS trackers to cellphone location data—the Supreme Court has made clear that the power of technology cannot be allowed to erode privacy guarantees. In *Carpenter*, the Court addressed whether a “search” occurred for Fourth Amendment purposes when police accessed historical cell phone records of a third party (*i.e.*, the phone company) that revealed the user’s past movements. 138 S. Ct. at 2212. The Court held that individuals have a reasonable expectation of privacy in long-term location tracking data under the Fourth Amendment, notwithstanding that such data may be shared as a matter of course with the phone company. *Id.* at 2223. The breadth of data at issue revealed all-encompassing data about a user that cannot simply be waived through the involuntary

disclosure of that information to the carrier. *Id.*

The *Carpenter* Court addressed a recurring issue in Fourth Amendment jurisprudence—how to determine when an individual has a reasonable expectation of privacy in the context of emerging technology. In resolving the issue, the Court recognized that constitutionally protected privacy interests are implicated in the ever-expanding volume of personal data necessarily available to third parties as a facet of 21st-century life. In bringing together these strains of analysis, the Court reinforced reasoning it had developed during the preceding two decades.

In *Kyllo v. United States*, for instance, the state scanned a home using a thermal imaging device to determine whether the amount of heat emanating from within was consistent with the high-intensity lamps typically used for indoor marijuana growth. 533 U.S. 27, 29 (2001). The Ninth Circuit initially held that petitioner had shown no subjective expectation of privacy because he had made no attempt to conceal the heat escaping from his home, and even if he had done so, the state’s actions did not violate any objectively reasonable expectation of privacy because the imager did not expose any intimate details of the petitioner’s life. *Id.* at 31. The Supreme Court reversed, holding that the state’s use of the imager to explore details of a private home—details that would previously have been unknowable without physical intrusion—constituted a search that was presumptively unreasonable without a warrant. *Id.* at 35-36. The Court held that individuals have a clear and reasonable expectation of privacy in their homes, and that “[t]o withdraw protection of this minimum expectation would be to permit police technology to erode the privacy guaranteed by the Fourth Amendment.” *Id.* at 34. The Court rejected the state’s

“mechanical interpretation” of the Fourth Amendment—the contention that no physical intrusion had occurred, and that the thermal imaging detected “only heat radiating from the external surface of the house.” *Id.* at 35. That approach, the Court held, would leave the homeowner at the mercy of advancing technology, including imaging technology that could discern all human activity in the home. *Id.*

The Court’s analysis was similar in *United States v. Jones*, in which the state attached a GPS tracking device to an individual’s vehicle and subsequently used the device to monitor the vehicle’s movements on public streets. 565 U.S. at 402. The state tracked the vehicle’s movements for 28 days, and, using multiple satellites, collected more than 2,000 pages of location data. *Id.* at 403. The Supreme Court held that the state’s installation of the GPS device on the target’s vehicle, and its use of that device to monitor the vehicle’s movements, constituted a search. *Id.* at 404-05. The Supreme Court’s decision ultimately turned on the fact that the state physically occupied private property for the purposes of obtaining information, which would undoubtedly have been considered a “search” within the meaning of the Fourth Amendment when it was adopted. *Id.*

The Court again protected privacy interests against the encroachment of technology in *Riley v. California*, where the government searched the digital contents of a cell phone during a lawful arrest. 573 U.S. 373, 379-80 (2014). The Supreme Court held that the warrantless search and seizure of the cell phone’s contents is unconstitutional under the Fourth Amendment. *Id.* The Court emphasized that the deep repository of information contained in a cell phone distinguished it from a wallet or handbag that would otherwise be searchable without a warrant. *Id.* at 403. “A person might carry in his pocket a slip of

paper reminding him to call Mr. Jones, [but] he would not carry a record of all his communications with Mr. Jones for the past several months, as would routinely be kept on a phone.” *Id.* at 394-95. Addressing the crucial and widespread use of cell phones, the Court observed that “[p]rior to the digital age, people did not typically carry a cache of sensitive personal information with them as they went about their day. Now it is the person who is not carrying a cell phone, with all that it contains, who is the exception.” *Id.* at 395.

Finally, in *Carpenter* itself, the Supreme Court synthesized these strains of jurisprudence. It did so first by limiting the third-party doctrine with respect to new technologies. The prior rule under *Smith v. Maryland* and *United States v. Miller* was that an individual lacked a reasonable expectation of privacy in information shared with third parties. *Smith*, 442 U.S. 735 (1979); *Miller*, 425 U.S. 435 (1976). The *Carpenter* Court recognized that such a formalistic approach could not account for new technologies. 138 S. Ct. at 2217 (“We decline to extend *Smith* and *Miller* to cover these novel circumstances.”). In doing so, the Court emphasized the “world of difference between the limited types of personal information addressed in *Smith* and *Miller* and the exhaustive chronicle of location information casually collected by wireless carriers.” *Carpenter*, 138 S. Ct. at 2219.

Against the background of evolving technologies that place a trove of information in the hands of third-party carriers and websites, the *Carpenter* Court provided a set of factors to determine whether the user of a technology has a reasonable expectation of privacy in data for Fourth Amendment purposes: (i) the revealing nature of the information collected, (ii) the quantity of information sought by the government, (iii) the individual’s

inability to avoid the collection of their personal data, and (iv) whether an individual's data is transmitted to a third party by an automated process or the individual's voluntary act. *Id.* at 2223.

After *Carpenter*, courts confronted with emerging technology in the Fourth Amendment context must apply these factors. As they have done so, numerous state and federal courts have fleshed out the *Carpenter* doctrine. With respect to social media, courts tasked with determining whether an individual has a reasonable expectation of privacy have emphasized the voluminous and revealing nature of data available on platforms, as well as users' actions in choosing or declining to share their data. For instance, in *United States v. Chavez*, a North Carolina district court held that a Facebook user has a reasonable expectation of privacy in content he has intentionally excluded from public access. 423 F. Supp. 3d 194, 202 (W.D.N.C. 2019). The court focused on the nature and amount of information conveyed on these platforms: "Through Facebook and other social media sites, users instantaneously convey intimate, momentous, and sometimes weighty information to close friends and family members spanning the entire globe . . . these forms of information . . . create a 'revealing montage' of the user's life." *Id.* at 203-04 (quoting *Riley*, 573 U.S. at 396). On the other side of the coin, in *Commonwealth v. Carrasquillo*, the Massachusetts Supreme Court held that a defendant did *not* have a reasonable expectation of privacy in his social media account after the defendant accepted an undercover officer's friend request. 179 N.E.3d 1104, 1108 (Mass. 2022). The linchpin of the decision was the defendant's affirmative act allowing the officer to view the information he had shared. *Id.* at 1120.

The breadth and sensitivity of the data collected is particularly important in determining whether an individual has a reasonable expectation of privacy. For instance, in *State v. Eads*, the Ohio Court of Appeals determined that an officer’s warrantless acquisition of a defendant’s medical records violated his Fourth Amendment rights given the nature of such records. 154 N.E.3d 538, 541, 544 (Ohio Ct. App. 2020) (“The intrusion on privacy varies depending upon the circumstances . . . importantly, the information exposed.”). Conversely, in *United States v. Gratkowski*, the Fifth Circuit determined that an individual does *not* have a privacy interest in the records of their Bitcoin transactions because the information conveyed is both limited in scope and presented voluntarily. 964 F.3d 307, 311 (5th Cir. 2020).

These factors, and particularly the revealing nature of the information at issue, show how the trial court erred in this case. Like the cell phone data discussed in *Riley* and *Carpenter*, an individual’s DNA reveals an immense volume and breadth of sensitive information. The sum of an individual’s private life can be reconstructed through their DNA, just as “the sum of an individual’s private life can be reconstructed through a thousand photographs labeled with dates, locations, and descriptions” found in their cell phone. *Riley*, 573 U.S. at 394.

This is not mere conjecture. It is concretely demonstrated in this case. Parabon identified M.H. as a match by surveying hundreds of thousands of Downs’s genetic markers—markers that he never contemplated would be put into the public realm, and that revealed ancestry, appearance, and health information. Parabon was then able to use that information to reverse engineer M.H’s entire family tree. At that point, Parabon not only

identified Downs as a match, but also used that information to construct a picture of Downs's private life, including where Downs had lived, where he had gone to school, and even information about his deeds and mortgages. The sensitivity of the data collected is worth emphasis. Genetic material provides a wealth of health information, similar to that of medical records discussed in *Eads*.

Downs did not voluntarily put any of that information into the public realm. Individuals cannot and do not opt into sharing their genes with relatives. Downs himself did not upload his genetic material. Nor did he consent to his aunt providing his genetic material through her own. He did not even know the upload had occurred. Owners of cell phones and users of social media make at least some choice to expose personal information to carriers and other members of a network. Downs made no comparable choice. *Carpenter* holds that even individuals who opt into some measure of data sharing preserve a reasonable expectation of privacy. Downs did not opt into anything. He did nothing whatsoever to waive his privacy interest in sensitive biological information.

The trial court did not consider these critical factors, each of which establishes that Downs had a reasonable and constitutionally protected interest in privacy. This Court should reverse.

C. The Trial Court's Approach to the Fourth Amendment Is Not Tenable Now and Will Be Catastrophic Going Forward.

Not only does the trial court's decision fail to follow Fourth Amendment jurisprudence, it threatens further massive incursions into privacy interests as technology continues to advance.

The decisions discussed above clearly signal this danger. The technology at issue in *Riley* was a flip phone, “a kind of phone that . . . generally has a smaller range of features than a smart phone.” 573 U.S. at 380. From that phone, officers were merely able to obtain a call log and a photo. *Id.* Had the Court held that this relatively primitive phone was subject to search, the potential for government mischief as technology further advanced to develop smartphones would be unfathomable. The same goes for *Kyllo*: in the two decades since the case was decided, imaging technology has advanced far beyond the simple thermal imaging cameras at issue there. *See* 533 U.S. at 35-36. As the *Kyllo* Court explained, then, “[t]he rule [courts] adopt *must* take account of more sophisticated systems that are already in use or in development.” *Id.* at 36 (emphasis added).

Here, the government was able to compile a detailed portrait of Downs’s life in less than 10 hours, based on information provided by one relative in a database with fewer than two million users. The implications of shielding such searches from the Fourth Amendment are staggering. DNA analysis is “rapidly evolving,” becoming “[s]maller, faster, and less costly.”¹ By the start of 2019, moreover, more than 26 million consumers had added their DNA to the four leading commercial ancestry and health databases.² This number will only

¹ U.S. Dep’t of Justice, *Advancing Justice Through DNA Technology: Using DNA to Solve Crimes* (Mar. 7, 2017), <https://www.justice.gov/archives/ag/advancing-justice-through-dna-technology-using-dna-solve-crimes#:~:text=The%20development%20of%20%E2%80%9CDNA%20chip,provide%20cost%2Deffective%20miniaturized%20components>.

² Antonio Regalado, MIT Tech. Rev., *More Than 26 Million People Have Taken an At-Home Ancestry Test* (Feb. 11, 2019), <https://www.technologyreview.com/2019/02/11/103446/more-than-26-million-people-have-taken-an-at-home-ancestry-test/>.

increase. In the very near future, virtually every American will have a blood relative whose DNA has been uploaded to a commercial website. And we cannot give or withhold our consent to distant relatives who choose to use those websites. Nor can we choose with whom we share our genes. We leave our genetic information everywhere we go. This Court should ensure that the Fourth Amendment continues to protect an individual's privacy interests in their genetic information.

CONCLUSION

This Court should reverse the trial court with directions to grant petitioner's motion to suppress the DNA evidence used in his trial.

RESPECTFULLY SUBMITTED at Anchorage, Alaska this 17th day of May, 2024.

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