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Privacy and Property: Constitutional Concerns of DNA Dragnet Testing

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DNA dragnets have attracted both public and scholarly criticisms that have yet to be resolved by the Courts. This review will introduce a modern understanding of DNA analysis, a complete introduction to past and present Fourth and Fourteenth Amendment jurisprudence, and existing suggestions concerning similar issues in legal scholarship. Considering these contexts, this review concludes that a focus on privacy and property at once, with a particular sensitivity to the inseverable relationship between the two interests, is Constitutionally consistent with precedent and the most workable means of answering the question at hand.

I. Introduction

DNA dragnet testing is an investigative technique used by investigators in situations where a victim and/or witnesses are either incapacitated or otherwise unable to give a specific enough or usable description to law enforcement to identify a suspect.[2] DNA dragnets are, while not yet common in the United States, used much more frequently in European countries to root out the perpetrators of serious crimes.[3] This

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[2] David M. Halbfinger, "Police Dragnets For DNA Tests Criticism," New York Times (2003): https://www.nytimes.com/2003/01/04/us/police-dragnets-for-dna-tests-draw-criticism.html
[3] Ibid.

process is an attractive prospect to investigators for both its precision ability to match a sample from a subject and evidence found at the scene and the facially non-invasive process for collecting the sample.[4] A typical DNA dragnet would proceed something like this: someone commits a crime where there is no other way to reasonably identify a suspect, investigators decide to ask (or threaten) people who are not suspects to submit a DNA sample to eliminate them from potential suspicion, and then, sometimes, the perpetrator will give a sample or will refuse to and therefore become suspicious enough that they are investigated further. In the United States, dragnets have not been massively successful, certainly not to the degree that might outright overcome its potential intrusiveness that has made it controversial.[5]

Literature on DNA dragnets contains several marked agreements as well as significant points of contention leading to a wide range of conclusions regarding the legality of its practice as a form of investigatory or accusatory evidence gathering. Some assert that DNA dragnets by their very design are always illegal searches under the Fourth Amendments probable cause and reasonable suspicion standards.[6] Others find conditions under which DNA dragnets could presumably permissible.[7] Others still find

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[4] Ibid.; See also Federal Bureau of Investigation, "Frequently Asked Questions on CODIS and NDIS." (n.d.). https://www.fbi.gov. (Noting that using the national CODIS database requires a "match rarity of at least one in ten million.")

[5] Halbfinger, "Dragnets For DNA Tests."

[6] Aaron B. Chapin, "Arresting DNA: Privacy Expectations of Free Citizens Versus Post-Convicted Persons and the Unconstitutionality of DNA Dragnets," *Minnesota Law Review*, 698 (2005): 1842-1875, https://scholarship.law.umn.edu/mlr/698; Sepideh Esmaili, "Searching for a Needle in a Haystack: The Constitutionality of Police DNA Dragnets," *Chicago-Kent Law Review* 82, 1 (2007): 495-523. https://scholarship.kentlaw.iit.edu/cklawreview/vol82/iss1/16; Laurie Stroum Yeshulas, "DNA Dragnet Practices: Are They Constitutional," *Suffolk Journal of Trial & Appellate Advocacy* 8, 1 (2003): 133-156. https://dc.suffolk.edu/jtaa-suffolk.

[7] Jeffrey S. Grand, "The Blooding of America: Privacy and the DNA Dragnet," *Cardozo Law Review*, 23 (2001): 2277-2322, https://advance.lexis.com/api/permalink/2d1730c0-e13e-4ba4-a96a-d830157aebdd/?context=1516831.

that DNA dragnets, if they are not executed by an arbitrary process, are presumably permissible given the legitimate government interests involved.[8] All, however, tend to agree that citizens have legitimate privacy interests in their genetic information and/or identity which necessitates a close eye to both the potential benefits and dangers of using dragnets such as these.

Importantly, analyses of DNA dragnet practices concerning their legality are relatively obscure and as such in this subfield of Fourth Amendment law have been few and far between. Even the most recent reviews specifically focused on DNA dragnets were published nearly ten years ago[9] with reviews conducted in the more general field of dragnets almost five years ago being the most recent.[10] This leaves newer cases critical to Fourth Amendment jurisprudence concerning advanced technologies – like increasingly accurate and low-cost DNA testing – outside of existing analyses of DNA dragnets. Even more, DNA dragnets, while comparable in many ways to other sorts of dragnets conducted by government agents, potentially yields a far greater amount of information than others implicating property and privacy rights both of a different kind and degree making even the most recent studies uninformative in addressing this line of inquiry. This gap in the literature is what the present review will address using an updated sense of

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[8] Christopher Slobogin, "Government Dragnets," *Law and Contemporary Problems* 73, 3 (2010): 107-143. https://www.jstor.org/stable/25766402; Jennifer K. Wagner, "Just the Facts Ma'am: Removing the Drama From DNA Dragnets," *North Carolina Journal of Law and Technology* 11, 1 (2009): 51-102. http://scholarship.law.unc.edu/ncjolt/vol11/iss1/4; Richard C. Worf, "The Case for Rational Basis Review of General Suspicionless Searches and Seizures," *Touro Law Review,* 23 (2007). https://openyls.law.yale.edu

[9] See generally Wagner, "Just the Facts Ma'am."

[10] Mariko Hirose, "Privacy in Public Spaces: The Reasonable Expectation of Privacy Against the Dragnet Use of Facial Recognition Technology," *Connecticut Law Review* 49, 5 (2017): 1591-1620. https://opencommons.uconn.edu/law_review/377; Carrie Leonetti, "Motive and Suspicion: *Florida v. Jardines* and the Constitutional Right to Protection from Suspicionless Dragnet Investigations," *Ohio State Journal of Criminal Law,* 14 (2016): 247-262. https://core.ac.uk.

Fourth Amendment jurisprudence according to newly established precedent and an up-to-date understanding of the capabilities of DNA analysis.

This review will first present the privacy interests implicated by the collection of DNA information in Part II by giving an explanation of what DNA analysis is, and what information can and cannot be gleaned from analysis. In Part III, this review will give an overview of relevant Fourteenth Amendment due process discrimination jurisprudence. In Part IV, this review will give an overview of relevant Fourth Amendment search and seizure jurisprudence including the modern "reasonable expectation of privacy" standard and prior property-based "trespass" doctrine. Finally, Part V will explain how a modern understanding of DNA and recent court decisions – implicating both privacy and property interests – yield a more complete and correct interpretation of the constitutionality of DNA dragnet testing.

II. Introduction to DNA Analysis

In the context of a lay discussion on DNA it is generally taken for granted that individuals' DNA is their own to some extent. One might say that it – DNA as a physical artifact, albeit a microscopic one – is a part of their person as much as an arm or a leg. While this is not a throwaway assumption while examining DNA as a subject of Fourth Amendment interest, what remains most important is the information contained within. This understanding requires a basic knowledge of what DNA is and what kinds of information can be extracted from it.

Intraspecific genomes are overwhelmingly identical with a comparatively small number of single-nucleotide polymorphisms (SNPs) that account for the entirety of the

variation between members of the species.[11] In humans, this amounts to every individual, notwithstanding identical twins, being genetically unique.[12] Across many thousands of SNPs geneticists and researchers have identified those that can contribute to predictions of a person's education level, the likelihood that they will develop a wide variety of mental and physiological illnesses, and even an individual's drug use habits.[13] Many consumer DNA testing companies such as 23andMe and Ancestry have begun selling the DNA information (albeit with the customer's name removed from the case information) to private third parties like pharmaceutical companies, beauty industry companies, and even Google subsidiaries.[14]

While law enforcement is fundamentally different from these for-profit non-governmental entities, it does not change the fact that they have the very same information at issue when an individual's DNA is sampled. Presently, the FBI maintains a database of DNA profiles collected from all US states and participating localities all around the country where often those contributors maintain databases of their own.[15] This represents a massive amount of genetic information being held by government agencies for indefinite periods of time which presents a security issue for the information of those sampled in the system. Scholars have previously brought up concerns that this storage of DNA records could pose severe risks to individuals legitimate privacy interests.[16] The

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[11] Lea Winerman, "What Can We Learn from Our DNA?" *Monitor on Psychology* 50, 3 (2019): 39, https://www.apa.org/monitor/2019/03/cover-dna at para. 10.
[12] Ibid at para. 9.
[13] Ibid at para. 18.
[14] See generally Erin Brodwin, "DNA-testing Companies Like 23andMe Sell Your Genetic Data to Drugmakers and Other Silicon Valley Startups," *Business Insider* (2018): https://www.businessinsider.com.
[15] FBI, "Frequently Asked Questions on CODIS and NDIS."
[16] Andrea De Gorgey, "The Advent of DNA Databanks: Implications for Information Privacy." *American Journal of Law and Medicine* 16, 3 (1990): 381-398.; Grand, "The Blooding of America," at 2312-2313.

potential that genetic information is shared or stolen by non-law enforcement third parties or used outside of the initial consent or intended use of the information by law enforcement has severe implications for an individual's privacy. This includes discrimination in hiring, insurance policies, or further interactions with law enforcement as will be discussed further in Part III.[17]

III. Relevant Statutory Law and Fourteenth Amendment Jurisprudence

While DNA cannot tell us everything one might wish to know about an individual or their familial heritage, its partial ability to predict some of the most sensitive aspects of an individual's being[18] is a legitimate concern when it comes to informational privacy. Observers have questioned how such information could be used by private entities to discriminate against genetically 'unfavorable' individuals in employment and insurance given the opportunity.[19] Noting these concerns in the private sector it is not out of the realm of reason that governmental entities could – and would – do the same. With access to polygenic risk scores derived from DNA[20] governmental institutions could predict intelligence and play a factor in "the criteria used to track children into different

[17] See discussion *supra* Part III; See also *Genetic Information Nondiscrimination Act of 2008*, *U.S. Code* 42 (2008): http://www.congress.gov/ (Note that this statute does not speak to the potential for the misuse of genetic information by law enforcement, but only in the context insurance and employment.)
[18] Center for Disease Control and Prevention, "Genetic Testing," (2022). https://www.cdc.gov/genomics/gtesting/genetic_testing.htm.
[19] Eric Ravenscraft, "How to Protect Your DNA Data Before and After Taking an At-Home Test," *The New York Times,* (2019): https://www.nytimes.com.
[20] Winerman, "What We Learn from DNA," para. 18.

educational paths," which would be akin to "assigning them to schools based on their parents' IQ scores."[21]

The Fourteenth Amendment's due process clause is the primary means of challenging discriminatory actions based on evidence or information unconnected to a crime from DNA analysis by both government and private entities. Prior to the passage of the 2008 Genetic Information Nondiscrimination Act (GINA) by Congress, individual states had begun the process of legislating on this emerging source of information rife with the potential for discrimination in fields including health insurance, employment, and life and disability insurance.[22]

GINA codified the prohibition on discrimination based on genetic information in health insurance and employment into federal law meaning that, at minimum, in these areas, people are protected from discrimination on purely genetic grounds.[23] As defined by this act, genetic information includes information about any individual or their family concerning the potential manifestation of diseases and disorders based on the results of genetic testing alone.[24] The distinction drawn between genetic information and health information has been suggested to be marked at the line that divides the projected risk of developing an attribute, like lung cancer or schizophrenia, and the evidenced development of such a condition.[25]

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[21] Eric Turkheimer, qtd. in Winerman, "What We Learn from DNA," para. 24.
[22] Deborah Hellman, "What Makes Genetic Discrimination Exceptional?" *American Journal of Law & Medicine,* 23 (2003): 77-116.
[23] *Genetic Information Nondiscrimination Act of 2008, U.S. Code* 42.
[24] Ibid. at 122.
[25] Henry T. Greenly, "Genotype Discrimination: The Complex Case for Some Legislative Protection," *University of Pennsylvania Law Review* 149 (2001): 1483 at 1495-1497 qtd. in Hellman, "What Makes Genetic Discrimination Exceptional?"

Given the statutory prohibition on the use, and in many cases, collection, of genetic information in the aforementioned ways, it is clear that the Government recognizes the significance of DNA analysis and its potential for abuse. It is critical to note that law enforcement is not mentioned as a potential source of abuse of genetic information, nor are any protections granted against discrimination by law enforcement or its individual officers.[26] Absent definitive legislative commentary on the issue, it falls to the Courts to answer the questions surrounding the uses of genetic information similar to those prohibited by GINA in law enforcement practices according to prevailing legal and social precedential expectations.

As of yet, there is no reasonably on point determination made by the Courts concerning the use of genetic information as a means of predicting an individual's genetic 'risk' of engaging in illegal activities. Given the current lack of legislative guidance or judicial rulings on the subject it is entirely possible that police could use information obtained through 'voluntarily' collected samples or the same information purchased from corporations offering commercial DNA testing to develop the same kind of 'risk scores' as have been developed for medical applications. That is, police could find that a certain set of determined genes could be used to predict that an individual is 40% more likely than the average person to use heroin or is 75% percent more likely to have a mental illness. With such predictive scores police could then target 'high-risk' individuals for increased monitoring or investigation when a crime has been committed. This is an Orwellian suggestion, but absent guidance preventing such actions, is certainly not outside of the realm of possibility. By recognizing the potential harms of the

[26]*Genetic Information Nondiscrimination Act of 2008, U.S. Code* 42.

unrestricted use of genetic information by governmental and private entities, Congress has shown that there is a significant political, social, and legal concern for genetics-based discrimination continuing to the present day.[27]

Recent scholarship concerning genetic discrimination in insurance and employment specifically, has suggested that the protection afforded by GINA is still missing important aspects identifying the privacy right that one has in their own genetic information.[28] Even in these non-criminal contexts, some scholars argue that a property interest, if not an outright absolute property right, in biological material is the defining character of DNA as a physical object.[29] Due to the fact that the risk scores created from genetic information simply represent probabilities of developing a condition or possessing an attribute, not a definitive measure of the aspect of interest, making decisions based on these predictions is clearly arbitrary.[30] It is perfectly reasonable that citizens would want to protect this information contained within their DNA from prying eyes, both private and public, so as to shield themselves and their families from potential discrimination on the basis of mere potentialities.

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[27] Ibid.

[28] Yaniv Heled and Liza Vertinsky, "Genetic Paparazzi: Beyond Genetic Privacy," *Ohio State Law Journal* 82, 409 (2021): 411-462 at 441. (Noting that "Rather than focusing on privacy as a primary goal, federal legislation has focused mainly on ways of limiting discrimination based on genetic information…")

[29] Ibid. at 448.

[30] *Genetic Information Nondiscrimination Act of 2008, U.S. Code* 42 at 886. (Concerning the difference between medical information and genetic information) ("an analysis… directly related to a manifested disease, disorder, or pathological condition that could reasonably be detected by a health care professional with appropriate training and expertise" does not constitute genetic testing, even if the condition could have been identified or predicted with a degree of accuracy using genetic analysis.) (Genetic discrimination, as defined by the statute, is concerned only with forward-looking predictions and not presently apparent, albeit perhaps genetically indicated, maladies.)

Investigative intrusions, even absent a specific prohibition granted by legislative means is sure to run afoul of the Fourteenth amendment, especially when the collection or use of such information is unsupported by warrant based on probable cause. Concerning the potential for genetic discrimination in the criminal justice system, the answer as to what right it is that people hold in DNA becomes clouded for the same reason that legal scholars have identified the lack of legislative guidance in the use of DNA-laden biological material as a privacy concern.[31] This is especially true in the context of voluntary transfer of that material to third-party commercial genetic testing services such as 23andMe which possess clear commercial interests in the material.[32]

In criminal investigations or other non-investigative police practices, it is obvious that the use of phenotypical markers indicating only demographic information that falls within protected classifications is likely to fail constitutional scrutiny[33]. Using genetically determined race or ethnicity of an unidentified criminal to target individuals for increased surveillance, for example, is itself likely to be, as a rule, an arbitrary and capricious breach of the due process clause lacking any further justification or tailoring of evidence to a more discrete group or individual.[34]

IV. Fourth Amendment Search and Seizure Jurisprudence

[31] Hallie P. Gillam, "Forensic Geneaology: The Benefits, the Risks, and the Immediate Need for Legislative Intervention," *Belmont Law Review* 9 (2022): 616-642, https://cpb-us-w2.wpmucdn.com/blogs.belmont.edu/dist/8/25/files/2022/05/Gillam_616-643.pdf at 637. (Concerning the lack of federal legislation classifying the initial property status of DNA and/or biological material and noting that the state possessing the most comprehensive statutory definition of property interests and rights in genetic information is Alaska.)
[32] Ibid at 634.
[33] Ibid at 631.
[34] Ibid at 631.

Knowing the potential damages caused by genetic discrimination from the products of DNA analysis, it is similarly necessary to understand the contours of Fourth Amendment jurisprudence to understand the privacy interests at issue. The Fourth Amendment requires this of the government concerning legal searches and seizures:

> The 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.[35]

The Amendments purpose as interpreted by the Supreme Court in *Schmerber* is to "protect personal privacy and dignity against unwarranted intrusion by the State."[36]

In *Katz v. United States,* the modern Fourth Amendment paradigm was created when it was decided by the Supreme Court that even though the authorities investigating Katz did not violate the above-mentioned "persons, houses, papers, and effects," his Fourth Amendment rights were violated because it protects that which one "seeks to preserve as private, even in an area accessible to the public."[37] This case established the current precedent – the 'reasonable expectation of privacy' standard – for determining what is subject to Fourth Amendment protections. This standard has been used in cases critical to the current landscape of dragnet and other warrantless criminal investigations including to *Terry v. Ohio, Schmerber v. California,* and *Schneckloth v. Bustamonte* all of which

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[35] U.S. Const. amend. IV.
[36] *Schmerber v. California*, 384 U.S. 757 (1966). https://supreme.justia.com/cases/federal/us/384/757/ at 767; Wagner, "Just the Facts, Ma'am," at 59.
[37] *Katz v. United States*, 389 U.S. 347 (1967). https://supreme.justia.com/cases/federal/us/389/347.

are cases of interest and importance to the current question.[38] Recent scholars have noted that this 'reasonableness standard' is critical in more recent cases as well being the present central measure of what is and is not constitutional concerning Fourth Amendment searches.[39]

This reasonable expectation was defined by Justice Harlan in his concurring opinion in *Katz* that "a person have [sic] exhibited an actual (subjective) expectation of privacy" along with the requirement that "the expectation be one that society is prepared to recognize as 'reasonable.'"[40] Both of these requirements must, therefore, be met should someone have constitutional protection in the place or information in question. That is to say, a person might subjectively believe that they have privacy in a conversation they are having with a neighbor on the other side of their backyard fence. However, if society were not to accept such a claim, (which it would likely not based on the requirement that the conversation would necessarily be happening above normal speaking volume) that speech and its content would not be constitutionally protected in this instance.

The courts have noted a number of exceptions to the reasonable expectation of privacy standard as it was set out in *Katz.* Before discussing the exceptions, however, it is necessary to understand the 'golden standard' for government searches. The 'preferred' method of ensuring a search is reasonable is a warrant supported by probable cause

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[38] *Terry v. Ohio*, 392 U.S. 1 (1968). https://supreme.justia.com/cases/federal/us/392/1/; *Schmerber v. California*, 384 U.S. 757 (1966).; *Schneckloth v. Bustamonte*,412 U.S. 218 (1973). https://supreme.justia.com/cases/federal/us/412/218/.
[39] Chapin, "Arresting DNA," at 1847; Slobogin, "Government Dragnets," at 111-112.
[40] *Katz v. United States*, 389 U.S. 347 (1967).

granted by a neutral magistrate.[41] Referred to as the Warrant Clause of the Fourth Amendment, this was a reaction to the general warrants used by the British prior to the Revolution which gave officials authority to search and seize property, essentially at will and for no specified reason.[42] These general warrants are, as a rule, prohibited by the Fourth Amendment because they lack a specific prescription of a "place to be searched, and the persons or things to be seized" that the Framers felt as though would protect them from the overbroad latitude granted to government agents in the colonial British justice system.[43]

Looking now at notable exceptions to the reasonableness standard articulated in *Katz*, one is the plain view doctrine which generally holds that information gained by viewing evidence from a public space, whether or not the evidence in question is in a private space, is not protected.[44] This is held primarily because it is unreasonable to think that things or information readily viewable from public spaces, such a sidewalk, are private. This is true even if, as in the above example, one is on their own property or even within the walls of their own homes. If a police officer were to be standing on the sidewalk beside a low fence and sees someone burying a body in their backyard, it would not only not be reasonable to believe this action was private simply because you were in a traditionally protected space, but it would be unreasonable to assume so.

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[41] *Terry v. Ohio*, 392 U.S. 1 (1968) at 20. (Warren, J., Opinion) (Held that investigators are required "whenever practicable," to "secure a warrant to make a search and seizure.")
[42] Chapin, "Arresting DNA," at 1848; Slobogin, "Government Dragnets," at 107.
[43] U.S. Const. amend. IV.
[44] *Harris v. United States*, 390 U.S. 234 (1968). https://supreme.justia.com/cases/federal/us/390/234/. (Representing one of the earliest post-Katz articulations of the plain view exception to the Fourth Amendment Warrant Clause requirements.)

In the case of DNA dragnets, it might be argued that, because the primary purpose of DNA analysis for identification is only to match evidence with a suspect, and, if investigators were to have a picture instead of DNA evidence, they would reasonably be able to match a picture to the hypothetical suspect if they ever were to show themselves in public, the information gleaned from testing is essentially in 'plain view.' This review rejects this argument out of hand for the simple fact that, although the primary purpose is identification like one might be able to accomplish by some other means, like a photograph, DNA evidence does not expose one's identity to the public in the same way as their physical appearance. To build a DNA profile against which a sample from a dragnet could be matched, expertise and equipment are necessary that means the process is nothing like a passerby accidentally spying a murder take place through someone's open window.

Another exception to the 'reasonable expectation of privacy' standard is the third-party exception, applied by the decision in *Smith v. Maryland.*[45] As decided, the case held that when information is voluntarily revealed to a third party, one no longer can reasonably claim that they have a reasonable expectation of privacy in that information.[46] In our context, that would mean that, when given to companies like 23andMe, one can no longer claim that the information is private if that third party chooses to hand it over to police. This exception, while potentially relevant in an investigation of a known suspect who police were attempting to connect to specific crimes, is less so for DNA dragnets. A significant number of members of the targeted group would have to have submitted

[45] *Smith v. Maryland*, 442 U.S. 735 (1979). https://supreme.justia.com/cases/federal/us/442/735/
[46] Ibid. at 744.

samples to commercial DNA testing companies for the information given to police to be effective as a wide-ranging unindividualized search where it is the crime that is known and the suspect that is not.

It has also been recognized that, in some cases, law enforcement have 'special needs' that exempt them from the usual requirements of the privacy standard. 'Special needs' are those functions of law enforcement that go beyond the primary purpose of investigating and preventing crime and apprehending criminals. The court has recognized several such instances where the so-called special needs doctrine leads to the finding that certain warrantless searches of persons or property are deemed reasonable under the Fourth Amendment.[47]

The crux of this doctrine is that the Courts have recognized government interests that do not fall neatly within the context of law enforcement actions of investigating crime with the purpose of apprehending the offender. Actions like roadside drunk driving checkpoints, searches of citizens with lowered expectations of privacy (such as those on probationary release), or persons and places in regulated industries are all considered special needs of law enforcement.[48] The consideration of the 'special needs' of law enforcement "that render the warrant and probable cause requirements of the Fourth

[47] Also referred to as the primary purpose limitation. The primary purpose of such a warrantless search may not be apprehending criminals as such would be a standard function of law enforcement to which the Fourth Amendment's full limitations apply absent exigencies or consent. See Wagner, "Just the Facts Ma'am," at 61.

[48] *United States v. Kincade*, 379 F.3d 813 (9th Cir. 2004). https://law.justia.com/cases/federal/appellate-courts/F3/379/813/ (quoting *Griffin v. Wisconsin*, 483 U.S. 868 (1987). https://supreme.justia.com/cases/federal/us/483/868/; *Illinois v. Lidster*, 540 U.S. 419 (2004). https://supreme.justia.com/cases/federal/us/540/419/; *New Jersey v. T.L.O.*, 469 U.S. 325 (1985). https://supreme.justia.com/cases/federal/us/469/325/; *Skinner v. Railway Lab. Execs. Ass'n*, 489 U.S. 602 (1989). https://supreme.justia.com/cases/federal/us/489/602/).

Amendment impracticable," measured against the privacy interests implicated in the action make up this determination of reasonableness.[49]

'Special needs' have been successfully argued as reason for completing a number of dragnet searches in past cases, including those concerning DNA testing in an indiscriminate fashion within a particular population. In all of these cases, it was found that the primary purpose of the action was clearly not investigating crime, but instead for valid circumstances outside of that need such as monitoring within a regulated industry or administering to prison populations.[50] DNA dragnets, as they are applied to investigations concerning finding a suspect in crimes are clearly conducted with the primary purpose of investigating crimes. To argue, that their primary use is to prevent further incidents, for example, would be in bad faith and thus this review rejects the assertion that special needs present a valid exception as articulated in the jurisprudential line flowing from the reasonable privacy standard in *Katz.*

One of the most commonly used, and therefore, most significant exceptions to the Warrant Clause requirements of the Fourth Amendment is voluntary consent of the searched. The voluntariness exception to the requirements of the Warrant Clause is well established in Fourth Amendment jurisprudence having been affirmed and reaffirmed time and time again, recently with *Florida v. Jimeno,* but has been a standing legal precedent for many years prior.[51] It is equally well established that this consent cannot be

[49] Yeshulas, "DNA Dragnet Practices," at 139.
[50] For e.g., see *supra* Note 47.
[51] *Florida v. Jimeno*, 500 U.S. 248 (1991). https://supreme.justia.com/cases/federal/us/500/248/. See also *Davis v. United States*, 328 U.S. 582 (1946). https://supreme.justia.com/cases/federal/us/328/582/; *Schneckloth v. Bustamonte*, 412 U.S. 218 (1973).

"the result of duress or coercion, express or implied," a judgement to be "determined from the totality of all the circumstances."[52] This totality of circumstances includes factors of overall intelligence, knowledge of one's rights, and cognizance which informs a review of the nature of the consent if challenged.[53]

The final category of exceptions to the *Katz* standard discussed here are exigent circumstances. Not all situations in which law enforcement are investigating or responding to a crime are conducive to securing a warrant, yet would represent a failure of purpose if they neglected to act. In these situations, the Courts have found it reasonable and, therefore, constitutionally permissible for members of law enforcement to initiate a Fourth Amendment search of a person and/or their effects.

One exigency is a reasonable suspicion that evidence is in danger of being destroyed. The court has found that destruction of evidence, either intentionally or unintentionally can constitute a part of the totality of circumstances that leads to a determination of exigency.[54] Critical to note in all cases of exigent circumstances, the Court has more recently required a case-by-case totality of circumstances approach to finding such a warrantless search reasonable, in contrast to issuing per se rules as was rejected in *McNeely* but served as a central holding in *Schmerber* considering the same issue.[55]

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[52] *Schneckloth v. Bustamonte*, 412 U.S. 218 (1973) at 227.
[53] Wagner, "Just the Facts, Ma'am" at 58.
[54] *Missouri v. McNeely*, 569 U.S. 141 (2013). https://supreme.justia.com/cases/federal/us/569/141/; See also *Schmerber v. California*, 384 U.S. 757 (1966).
[55] Ibid. (The dissipation of one's blood alcohol content (BAC) constituted a full and reasonable explanation for taking prompt warrantless action in the view of the *Schmerber* Court whereas the *McNeely* Court found it insufficient taken alone, instead requiring a full review of the relevant circumstances that informed the reasonableness of the search.)

Another set of emergent conditions identified as representing potential exigencies are 'hot pursuit' and/or a suspicion (or demonstration) of danger being posed to law enforcement or the public. *Terry* represents perhaps the most well-known of the cases exemplifying this exemption permitting officers to act by conducting a limited search based upon a reasonable belief that a crime has been committed or danger to the public is present.[56] Although there remain a number of other exceptions and circumstances where otherwise reasonably private information might be unprotected, these are the ones of primary relevance to the present question of DNA dragnets.

The 'reasonable expectation of privacy' standard established by *Katz* is not, however, the only concept of Fourth Amendment jurisprudence that has ever existed. The "trespass doctrine," a mainstay of common law and Fourth Amendment jurisprudence prior to the establishment of the reasonable expectation of privacy doctrine in *Katz*, has recently been revived for the modern era in cases such as *Jones v. US.* This case was decided not upon the basis of a reasonable expectation of privacy in Jones's movements, but, instead, based on law enforcement officers "trespassorily insert[ing] the information-gathering device" onto a vehicle owned by Jones.[57] Justice Scalia, delivering the opinion of the Court in the *Jones* decision, stated that "the *Katz* reasonable-expectation-of-privacy test has been added to, not substituted for, the common-law trespassory test."[58] Because of the current

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[56] *Terry v. Ohio*, 392 U.S. 1 (1968) at 30.

[57] Brittany Boatman, "United States v. Jones: The Foolish Revival of the 'Trespass Doctrine' in Addressing GPS Technology and The Fourth Amendment," *Valparaiso University Law Review* 47, 2 (2013): https://scholar.valpo.edu/cgi/viewcontent.cgi?article=2292&context=vulr: 277-288. See also *United States v. Jones*, 565 U.S. 400 (2012) https://supreme.justia.com/cases/federal/us/565/400/.

[58] *United States v. Jones*, 565 U.S. 400 (2012) at 947. See also *Alderman v. United States*, 394 US 165 (1969) https://supreme.justia.com/cases/federal/us/394/165/. (White, J., opinion) (Considering the status of the trespass doctrine following the *Katz* decision) ("Nor do we believe that Katz, by holding that the Fourth Amendment protects persons and their private conversations, was intended

standing and relatively sporadic use of this doctrine it has generally been assumed by scholars to be out of favor as a standard for deciding Fourth Amendment cases with some going so far as calling its recent reappearance in *Jones* a foolish revival of "an outdated doctrine."[59]

For most of the Fourth Amendment's jurisprudential history, the property-based 'trespass doctrine' was the primary standard for determining whether a government action was a search, therefore necessitating a warrant supported by probable cause, notably enunciated in *Boyd v. United States* decided by the Supreme Court in 1886.[60] Here we can see an early articulation of the standard which would come to govern the interference in individuals' private property and – by proximity to property interests – privacy interests under the Fourth Amendment.[61] That is, the core interest identified by the Court as being the center of Fourth Amendment considerations was the noninfringement of private property. Some critics of the *Katz* decision, while recognizing the asserted proximal importance of privacy interests, have claimed that the 'reasonable expectation of privacy' standard as the central concern of Fourth Amendment jurisprudence is clearly out of line with the fabric of the law, especially in a context

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to withdraw any of the protection which the Amendment extends to the home or to overrule the existing doctrine.") at 180.

[59] Boatman, "The Foolish Revival of the 'Trespass Doctrine'" at 680-681. (Noting that *Katz* has generally been accepted as overturning *Olmstead v. United States*, 277 U.S. 438 (1928) holding that a technologically enhanced intrusion by the government that was deemed legal in *Olmstead* was no longer so based on the new 'reasonableness' standard.)

[60] *Boyd v. United States*, 116 U.S. 616 (1886) https://supreme.justia.com/cases/federal/us/116/616/ at 630.

[61] Ibid at 630. (Concerning what the nature of the protections afforded by the Fourth Amendment are) (Bradley, J., Opinion, "…the essence of the offence… is the invasion of his indefeasible right personal security, personal liberty, and private property, where that right has never been forfeited by his conviction of some public offence…") See also Christian Halliburton, "How Privacy Killed Katz: A Tale of Cognitive Freedom and the Property of Personhood as Fourth Amendment Norm," *Akron Law Review* 42 (2009): 803-884, https://advance.lexis.com/api/permalink/c93ccb46-f504-419b-a310-bab5635e9b8d/?context=1516831 at 818-819.

wherein new technology is continuously shifting what realms society and human experience deem reasonably private.[62]

Regardless of what the proper balance of privacy and property concerns in Fourth Amendment jurisprudence are, there still remains the issue of whether bodily tissues are one's property before any further argument about DNA dragnets can proceed. The interests involved in bodily fluids that can yield identifying genetic information such as blood, semen, and saliva all are less readily determined than is the case for traditionally recognized pieces of property such as owned real estate, cars, a locked trunk, *et cetera*. *Moore v. Regents of the University of California*, decided by the California Supreme Court, is a seminal case in this line of inquiry and must be looked towards for guidance.[63]

The *Moore* Court found that the property interests in one's biological materials and the information produced from them are not of the same kind, and, therefore, not afforded the same protections as traditional physical property.[64] Moore, a sufferer of a rare form of leukemia, underwent treatment at UCLA Medical Center where his spleen was removed to slow down disease progression.[65] Moore was not, however, informed that the physicians treating him had taken a research interest in his biological materials

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[62] Halliburton, "How Privacy Killed Katz," at 883; See also Janine Young Kim, "On the Broadness of the Fourth Amendment," *Southern Methodist University Law Review* 74, 3 (2021): 4-58, https://advance.lexis.com/api/permalink/668059a3-e2f5-4405-850d-9bd97729a3d0/?context=1516831 at 58. (Contending that Fourth Amendment rights as conceptualized to protect people's "right to be secure" requires a commitment to the broad nature of the rights implied and not just privacy or property individually) ("The broadness of the Fourth Amendment is reflected from its earliest development to the Court's current embrace of both privacy and property. Fidelity to this history may well mean that there must be multiple tests and models of the Fourth Amendment to fully protect the individual's right to be secure.")

[63] *Moore v. Regents of University of California*, 793 P. 2d 479 (Cal. 1990) https://law.justia.com/cases/california/supreme-court/3d/51/120.html.

[64] Ibid. *see generally*.

[65] Ibid. at 125-126.

having recognized potential to "benefit financially and competitively…[by exploiting the cells] and [their] exclusive access" to them to the effect of securing a six-figure contract for the product developed using the physicians' research.[66]

At issue here is not whether, the removal of these cells was lawfully conducted. Instead, the question is whether Moore retained a property interest in those cells insofar as he has the property right in them to then direct their use even after they were extracted. This is closely analogous to the controversy of using DNA evidence gathered from dragnet-style investigations for purposes outside of the original consent of its analysis by law enforcement, thus making this case that much more informative.[67] In this context, the California Supreme Court neglected extending property rights to all derivatives – the genetic code, research produced, and the monetary benefits thereof – the excised cells were used to produce because of the government interest in medical research that is in contention with Moore's privacy and property rights.[68] The dissent of the *Moore* Court chose to emphasis Moore's privacy rights in this case, because, although rights to the one's tissue when used for medical research is limited by statute, it does not mean that "valuable rights in that tissue" are not retained in part.[69]

In *Moore*, the limited concession by the majority that people do possess the medical autonomy to consent or not to trespasses into their person similarly implies that,

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[66] Ibid. qtd. at 126.
[67] It is important to note that the analogy extends only so far as the acceptance that the actual gathering of the sample by law enforcement was lawfully conducted.
[68] Ibid. at 146 (Panelli, J., opinion) ("the theory of liability that Moore urges us to endorse threatens to destroy the economic incentive to conduct important medical research. If the use of cells in research is a conversion, then with every cell sample a researcher purchases a ticket in a litigation lottery.")
[69] Ibid. at 166 (Mosk, J., dissent) ("even if we assume that [California statutory law] limited the use and disposition of his excised tissue in the manner claimed by the majority, Moore nevertheless retained valuable rights in that tissue.")

because individuals possess that autonomy, they have some interest in selectively protecting or allowing 'entry' into their bodily property. That is there is a bodily property insofar that it is understood to allow individuals to prevent trespass into their biological tissues, even when that trespass would otherwise serve a compelling government interest in research or – in the case of DNA dragnets – solving violent crimes.

Having property in one's own body has been identified recently by scholars as a necessary right to possess if foundational promises of the Constitution are to be upheld.[70] Concerning the use of brain-imaging devices as increasingly accurate (and intrusive) lie detectors, Halliburton argues that the Bill of Rights, the Constitution as a holistic document, and even the foundation of democratic ideals requires that people are free within their own mind to think as they will in order for our system of freedom and liberty to work as intended by the Founders.[71] Others have similarly found that, in the face of developing technologies that serve to pass the boundaries of personal property without violating them physically, protections against the ability of government to intrude are necessary.[72]

Before attempting to reconcile these two competing paradigms of Fourth Amendment jurisprudence, this review will demonstrate why it is that a purely privacy-concerned analysis is inadequate, not only eking out a workable standard for DNA dragnet analysis but also – and more importantly – how a privacy approach would likely

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[70] Halliburton, "How Privacy Killed Katz," at 812-813.
[71] Ibid. at 838. (Concerning a 'propertized' concept of the Fourth Amendment when the property is intangible, such as brain-imaging or, presently, DNA analysis) ("…specific kinds of information in particular, are essential to or even a manifestation of personhood.")
[72] See *generally* Orin S. Kerr, "The Fourth Amendment and New Technologies: Constitutional Myths and the Case for Caution," *Michigan Law Review* 102 (2004): 801-888, https://advance.lexis.com/api/permalink/0963261f-388c-495f-b51b-fcbeaa89a128/?context=1516831.

fail to protect the substantive aims of the protections guaranteed by the Fourth Amendment.

V. From Unworkable Privacy to a Workable Mixed Solution

Based on existing scholarship, it is clear that dragnets using what might be considered advanced technology – including DNA analysis – has not been resolved in legal academia, much less in case law. An examination of the existing arguments will reveal that the current privacy-centric paradigm does not offer us any workable solution that satisfies the various aspects of the 'reasonable expectation of privacy' standard.

A. Unworkable Privacy

The first and perhaps most obvious charge against the practice of dragnet investigations is that they are analogous to the general warrants expressly abhorred and prohibited by the authors of the Fourth Amendment's text. Some have argued that any search that entirely dispenses with individual suspicion and/or any attempts at going before a magistrate for review would be classified as such, especially in the face of the important interests being violated.[73] Dragnets are, after all, a generalized search of an unindividualized group without probable cause of any constituent member of that group having participated in a crime. Yet, some have argued that under modern precedent, we may forgo the requirements of the Warrant Clause entirely and decide the lawfulness of a general search on the grounds of its reasonableness – primarily justified by the

[73] Chapin, "Arresting DNA," at 1858 (Noting that while some groups may have diminished expectation of privacy in the identifying information available from DNA sampling, such as convicted criminals, free citizens enjoy higher levels of protection that means "probable cause or a warrant would be necessary to compel a DNA sample… barring an immensely significant governmental interest.")

voluntariness exception[74] – allowing for a general search to potentially be lawfully conducted under Fourth Amendment jurisprudence.[75]

Others still contend that the Framers' prohibition on general warrants extends only so far as the warrants themselves and not to the actual practice of general searches.[76] These approaches are generally deferential to the right of government agents to conduct general searches for what could be deemed legitimate and 'reasonable' purposes. There are those too that favor the use of dragnet-style searches, and yet find that they fall under the classification of a general search by determination of the Courts.[77] The complexity – and generally unconvincing – nature of any of these arguments causes most to look to exceptions to the Warrant Clause as a means of justifying or finding against DNA dragnets or dragnets generally.

The first, and perhaps least convincing, potential exception would be exigent circumstances such as 'hot pursuit' or the 'reasonable' belief that evidence is in danger of being destroyed.[78] As discussed, the Court has considered the destruction of bodily

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[74] See discussion *infra* Note 82.
[75] Slobogin, "Government Dragnets," at 111. (Noting the Warren Court establishing the Reasonableness Clause as the "linchpin of Fourth Amendment analysis [in cases concerning dragnet searches]") (Citing *Camara v. Municipal Court* 387 U.S. 523 (1967) wherein the Court held that there "can be no ready test for determining reasonableness other than by balancing the need to search against the invasion which the search entails.")
[76] Worf, "The Case for Rational Basis Review," at 77. (Examining the historical contextual meaning of general searches and warrants as understood by the Framers.)
[77] Wagner, "Just the Facts, Ma'am," at 57 (Noting a long line of cases including for e.g., *Virginia v. Moore*, 128 S. Ct. 1598 (2008), *Payton v. New York*, 445 U.S. 573, 583 (1980), *United States v. Rabinowitz*, 339 U.S. 56, 62 (1950), and *Marron v. United States*, 275 U.S. 192, 195 (1927) that has condemned general searches as unconstitutional acts.) (Interestingly, Wagner argues that despite what they identified as *per se* unconstitutional in the face of classification as a general search, dragnet-style searches like DNA sampling can be lawfully conducted by voluntary consent of the searched, under 'special needs,' or other instances of exigent circumstances.)
[78] See discussion *supra* Part IV.

evidence more than once[79] but these decisions are entirely inapplicable in cases concerning DNA. In these previous cases, there was a legitimate possibility that evidence was being destroyed with each passing minute. DNA evidence on the other hand, is entirely safe from destruction, intentional or otherwise. A person's DNA is so stable through a person's life that a suspect can be identified through samples taken years apart.[80] Thus, there is nothing that can happen or be done, either intentionally or not, for DNA evidence to be destroyed or altered in such a way as to represent a exigency that would preclude the need for a warrant supported by probable cause.

As for 'hot pursuit' or similar exigent circumstances – where reasonableness would be derived from preventing a clear danger to investigators or the public that is greater than the violated privacy interests of the searched individual – the DNA dragnet process as it is currently understood simply is not capable of responding in such a way. That is, dragnet-style DNA sampling, is simply not analogous to a circumstance like chasing a fleeing suspect into a private residence or apprehending a belligerent person brandishing a weapon in a public plaza. The argument could be made that if a limited dragnet sampling could prevent danger to the public by finding out, for example, a serial rapist who is thought to strike again, the balance between the government interest in solving and preventing crime and the privacy interests violated might produce a finding of reasonableness. This argument, though it might prove to neatly solve the problem at hand by establishing an ad hoc test for balancing competing interests is not possible. Dragnets,

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[79] *Missouri v. McNeely*, 569 U.S. 141 (2013). See also *Schmerber v. California*, 384 U.S. 757 (1966).

[80] United States Department of Justice, National Institute of Justice, Office for Victims of Crime, "Understanding DNA Evidence: A Guide for Victim Service Providers," https://www.ojp.gov/pdffiles1/nij/bc000657.pdf. at 2.

by nature, are neither limited nor guaranteed to find the perpetrator. Stretching existing exigency exception precedents to such an end simply hasn't been done by the Courts and thus cannot be argued as a solution. This is likely for the good reason that, as others have stated before, reasonings for one compelled warrantless search and not another would be cyclical and subjective to a point of not establishing any valid decision-making process.[81]

In a similar fashion, the open fields doctrine does not apply to DNA dragnets as we understand them today. That is to say, though it might be argued that DNA sampling in a dragnet-style to 'exclude' certain individuals from suspicion, is the same as if investigators were to have a picture of the suspect and were simply comparing it to passersby on the street and were to check them off a list as they went. This is, once again, an ineffective argument for the constitutionality of DNA dragnets, simply due to the fact that the wealth of personal medical, behavioral, and precise identifying information contained, is not in the plain view of the public in the same way that someone's face or overall appearance is. The equipment and expertise necessary to extract this information from physical samples, which themselves are technically in 'plain view' while a person is out on the street, precludes the contained information from being publicly visible. It is more analogous to that of someone carrying a closed trunk of documents along the sidewalk as opposed to having the information written across one's forehead.

The 'special needs' of law enforcement is unequally unhelpful for determining the constitutionality of most dragnets of free citizens. 'Special needs' encompass a number of functions carried out by law enforcement officers where the primary purpose of the

[81] Halliburton, "How Privacy Killed Katz" at 827.

action is not to investigate crimes.[82] This would be a more helpful avenue to testing the reasonableness of a DNA dragnet search if the unit of analysis was convicted criminals or government officials needing high-security clearances because the presumptive function of conducting such testing is not to solve crime, but for emergency identification or some other similar purpose. In the case of dragnet-style DNA testing however, the purpose is *explicitly* the investigation of crime, and any other genuine motive is entirely absent.

The final major avenue to a Fourth Amendment search being deemed reasonable, and, therefore, constitutionally permissible is voluntary consent provided by the target of the search. Other scholars specifically dealing with dragnets have noted that this is by far the most common and/or likely route to a constitutional practice of collecting DNA samples from members of the public.[83] Because of the ambiguities present in determining where consent is truly voluntary and where it is coerced – either explicitly or implicitly – a multiplicity of scholarly positions have been taken on it concerning dragnets of this kind.

Some scholars have asserted that – for free persons who at the point of collection are not suspects – the very act of asking for a sample can constitute coercion rendering any sample collected involuntary.[84] That is, though voluntary consent to a search has long been accepted as an exception to probable cause and reasonableness requirements, there may exist circumstances where involuntary 'consent' might occur by both implied and/or explicit coercion by law enforcement. While constitutional for a police officer or other

[82] See discussion *supra* Part IV.
[83] Chapin, "Arresting DNA," at 1846; Esmaili, "Constitutionality of DNA Dragnets," at 499; Jonathan Will, "DNA as Property: Implications on the Constitutionality of DNA Dragnets." *University of Pittsburg Law Review* 65, no. 129 (2003) 129-143. http://dc.law.mc.edu/faculty-journals.
[84] Chapin, "Arresting DNA," at 1846; Esmaili, "Constitutionality of DNA Dragnets," at 519.

government investigator to simply talk to an individual on the street or even at their residence absent other misconduct, it has been asserted that, because the purpose of DNA dragnets is to 'flush out' potential suspects by offering otherwise non-suspect citizens the implicit, and sometimes explicit,[85] choice of being tested or becoming a suspect for noncooperation, coercion is inherent, and any consent given is not voluntary.[86]

In contrast, some have argued that, because of the potential investigative and evidentiary value that can be derived from dragnets, the limited infringement on one's right through, at times, dubiously understood and subjectively applied means of measuring consent and coercion, we should accept the use of dragnet DNA sampling conducted as such.[87] Regardless of the evidentiary value and crime-stopping usefulness there is of citizens sharing information with law enforcement, once again, the ambiguity of the present case law renders the privacy standard as it has been developed since its establishment in *Katz* as something less than workable for understanding dragnet DNA testing as a whole.

B. A Workable Mixed System

Recent case law, including *United States v. Jones* and *Kyllo v. United States,* along with a property doctrine-informed interpretation of *Moore v. Regents of the University of California* allow us to move away from the ambiguous, subjective, and inefficient, case-

[85] Grand, "The Blooding of America," at 2304. (Referring to a DNA dragnet implemented by police in Ann Arbor, Michigan where investigators were claimed to have "harassed" non-suspect individuals and told them that consenting to the sampling was "the only way to clear their names.")
[86] Chapin, "Arresting DNA," at 499.
[87] Wagner, "Just the Facts, Ma'am," at 58. See also *Schneckloth v. Bustamonte*,412 U.S. 218 (1973). (Citing *Schneckloth* as establishing the test voluntary consent wherein the totality of circumstances is considered but the central issue is that consent is not given under "duress or coercion, express or implicit.")

by-case understanding of DNA dragnet searches that makes the entire line of inquiry judicially inefficient. This review finds that, considering the inherent "bodily property" interests implicated in the sampling and use of one's DNA for anything other than the most limited identification purposes, DNA dragnets represent an unlawful use of technology used to wrench away one of the most sacredly private areas that a person can hold; their own genetic identity that can tell a viewer more than one might be able to tell about themself. This is especially true where the Court has clearly not entirely disavowed itself from the trespass doctrine's property-based Fourth Amendment considerations.[88] Using a jurisprudential and philosophical understanding of certain effects and information as not protected on the basis of privacy or on that of owned property, but instead, protected as the 'property of privacy,' it should be clear to see that only the most limited DNA dragnets should be permitted under Fourth and Fourteenth Amendment protections.

Justice Scalia's opinion in *Jones* makes explicit that the common law trespass doctrine as it had existed since the application of the Fourth Amendment as a protection against unlawful intrusion did not die with the creation of the *Katz* standard.[89] Even prior to this 2012 decision it can be seen in the important *Kyllo* case that the trespass doctrine still held some sway in modern judicial considerations, even if it was framed under the auspices of a simple 'reasonable expectation of privacy.'[90] Other scholars have noted that

[88] *United States v. Jones*, 565 U.S. 400 (2012). (Scalia, J., Opinion) (Holding that "the *Katz* reasonable-expectation-of-privacy test has been added to, not substituted for, the common-law trespassory test.") at 6.
[89] Ibid.
[90] *Kyllo v. United States*, 533 U.S. 27 (2001) https://supreme.justia.com/cases/federal/us/533/27/ (While Justice Scalia notes here that the Court has "decoupled violation of a person's Fourth Amendment rights from trespassory violation of his property," as his later clarification in *Jones*

there is a necessity in analyzing the informational connection between property (the 'thing') and the privacy value of both it and its derivatives. That is, the crux of the analysis according to this view is that there are inextricably linked aspects of property and privacy that interact in such a way as to mean that you cannot violate one without the other or in a more minor way. Government invasions against privacy and government invasions against property are a package deal in other terms. This is the solution for which this review advocates for understanding and measuring the legality of DNA dragnets. Its application requires a very similar but subtly different move than the brain-imaging in question in Halliburton's note.[91]

It is similar for the fact that instead of a DNA-laden biological sample being extracted and taken away for analysis and potential storage, the brain-imaging Halliburton examines does not require the seizure of any physical artifact. That is, after the procedure, no further information can be gleaned from the analysis and the person leaves nothing behind; they leave with all of the bodily tissues that they arrived with. In DNA dragnets, however, the difference is that, for one, investigators are left with a physical artifact which they are, under most circumstances, entitled to keep absent a specific request to destroy it[92] and, secondly, the information gained is not, essentially, a more accurate polygraph, but is capable of confirming one's identity and predicting ones medical and behavioral future.[93]

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suggests, property interests and privacy interests are both of interest insofar that one emanates from the other.) See also Halliburton, "How Privacy Killed Katz," at 882.

[91] Ibid.

[92] See discussion *supra* Part II. See also generally FBI, "Frequently Asked Questions on CODIS and NDIS,"; De Gorgey, "The Advent of DNA Databanks."

[93] See discussion *supra* Part II.

As such, there is an even stronger interest in keeping one's combined property and privacy intact in the face of potential probes into this zone of exclusion than in brain-imaging.

With this understanding, this review looks to *Moore* to make the case that the fundamental consideration that should be at play is the recursive relationship between privacy and property that creates the 'property of privacy' that is seemingly the true subject of consideration in constitutional concerns of both Fourth and Fourteenth Amendment protections, not the ad hoc balancing test that was employed therein. Specifically, the *Moore* decision is no longer in line with a contemporary understanding of bodily property in DNA in the modern world.[94]

Using DNA dragnet testing, law enforcement is able to both incriminate or exonerate by precise identification and acquire a means of targeting certain populations based on scientifically neutral criteria that is substantively discriminative. As such, one obviously holds an interest in the property (DNA laden material) and a privacy interest in the information to be gleaned from it, (e.g., polygenic risk scores)[95] but the true mark of what is at stake cannot be understood without the consideration of both. Like the heat-detection at issue in *Kyllo,* the interest in protecting one's privacy only makes sense in the context of the presumption that one has the ability to selectively exclude or include investigators from something they have dominion over. So too is property only truly understood in the light that one might find that it can include information and lead to further

[94] *Moore v. Regents of University of California,* 793 P. 2d 479 (Cal. 1990). (Wherein the California Supreme Court found that the nonconsensual use of Moore's unique genetic code for the benefit of medical research and the unrequited financial gain of the researchers was lawful as Moore held no rights to the emanations of his unique bodily blueprint in the face of scientific discoveries value to the public good). See also discussion *supra* Part IV.

[95] See discussion *supra* Part II.

inferences about a person revealing not only an entirely discrete point in a person's existence but also something more wholistic about them.

VI. Conclusion

Through an updated knowledge of what information it is possible to glean from DNA analysis, a close consideration of the potential discriminatory effects of said information, a sensitivity to the jurisprudential history of the Fourth Amendment, and an interpretation of precedent cases informed by the aforementioned contexts, this review has come to a solution for judging the Constitutionality of dragnet-style DNA testing as an investigative practice. By respecting the full history of Fourth Amendment jurisprudence as found in *Katz* and common law trespassory tests as interpreted in recent case history, this review can conclude that a compound analysis where the link between privacy and property is maintained without undue supremacy being afforded to either is the most workable and Constitutionally sound measure for DNA dragnets. This is to say that the Court has made privacy and property, without or without explicitly noting it, two sides of the same coin through Justice Scalia's opinion in *Jones.* In concert with inferences drawn from *Kyllo,* there is a clear interest implicated that is not entirely one or entirely the other but a simultaneous consideration of the inextricable interaction between the two; the property inherent to practicing privacy and the privacy that gives exclusivity and ownership to property. Given this link, it seems clear that only the most limited DNA dragnets are constitutionally permissible.