DNA, RACIAL DISPARITIES, AND BIASES IN CRIMINAL JUSTICE: SEARCHING FOR SOLUTIONS

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"[W]e remain imprisoned by the past as long as we deny its influence in the present."[2]
~Justice Brennan

"The human genome underlies the fundamental unity of all members of the human family, as well as the recognition of their inherent dignity and diversity."[3]
~Universal Declaration on the Human Genome and Human Rights

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[2] McCleskey v. Kemp, 481 U.S. 279, 344 (1987) (Brennan, J., dissenting).

[3] *Universal Declaration on the Human Genome and Human Rights*, UNESCO (Nov. 11, 1997), http://portal.unesco.org/en/ev.php-URL_ID=13177&URL_DO=DO_TOPIC&URL_SECTION=201.html (adopted at UNESCO's 29th General Conference).

Nearly 150 years ago, the United States ratified the Fourteenth Amendment, recognizing the right of every "person within its jurisdiction the equal protection of the laws."[4] More than 50 years ago, the United States enacted the Civil Rights Act of 1964, prohibiting racial discrimination in federal assisted programs, such as law enforcement.[5] More than 20 years ago, the United States ratified the International Convention on the Elimination of All Forms of Racial Discrimination.[6] More than a decade ago, the Department of Justice issued guidance regarding the use of race by law enforcement.[7] And yet, in 2015, headlines and hashtags prominently feature regular reminders of "the 'badges and incidents of slavery,'"[8] and racial disparities persist in all facets of the criminal justice system.[9]

The Department of Justice (DOJ) issued its first formal guidance regarding the use of race by law enforcement in 2003

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[4] U.S. CONST. amend. XIV, § 1.

[5] Civil Rights Act of 1964, Pub. L. No. 88–352, 78 Stat. 252 (1964) (codified as amended in scattered sections of 2 U.S.C., 28 U.S.C., and 42 U.S.C.).

[6] G.A. Res. 2106 (XX), International Convention on the Elimination of All Forms of Racial Discrimination (Dec. 21, 1965); *Frequently Asked Questions: Convention on the Elimination of All Forms of Racial Discrimination*, ACLU FOUND., at 1, https://www.aclu.org/files/pdfs/humanrights/cerd_faqs.pdf (last visited Jan. 28, 2017).

[7] U.S. DEP'T. OF JUST.: C.R. DIV., GUIDANCE REGARDING THE USE OF RACE BY FEDERAL LAW ENFORCEMENT AGENCIES, at 1 (2003), http://www.justice.gov/crt/about/spl/documents/guidance_on_race.pdf [hereinafter 2003 DOJ GUIDANCE].

[8] Jennifer Mason McAward, *Defining the Badges and Incidents of Slavery*, 14 U. PA. J. CONST. L. 561, 561 (2012); U.S. CONST. amend. XIII, § 1.

[9] *See Reducing Racial Disparity in the Criminal Justice System: A Manual for Practitioners and Policymakers*, THE SENT'G PROJECT, at 5–6, 62 (2008), http://www.sentencingproject.org/wp-content/uploads/2016/01/Reducing-Racial-Disparity-in-the-Criminal-Justice-System-A-Manual-for-Practitioners-and-Policymakers.pdf (discussing race-based differences in treatment within the criminal justice system).

(2003 DOJ GUIDANCE).[10] The 2003 DOJ GUIDANCE and the Bush administration's handling of racial profiling—including the administration's profiling against individuals of the Muslim faith and of ancestry or national origins in the Middle East—were heavily criticized.[11] President Obama, the nation's first African American president (who, coincidentally, had passed an anti-racial profiling bill in Illinois as a state senator), campaigned on a platform that included a promise to "ban racial profiling."[12] And while a review of the 2003 DOJ GUIDANCE began in 2009 by Attorney General Eric Holder,[13] the nation's first African American Attorney General, the Obama administration did not release new guidance until December 8, 2014 (2014 DOJ GUIDANCE).[14] While neither policy discusses genetic or genomic science and technologies, each informs the context within which law enforcement and prosecutors have applied and will apply those tools.

In *Maryland v. King*,[15] a case decided in 2013, the U.S. Supreme Court had the opportunity to consider whether a state statutory scheme could authorize law enforcement to collect and analyze DNA from individuals prior to conviction—i.e., whether DNA fingerprinting could be routinized as part of the arrest booking procedure—without running afoul of the Constitution.[16] The questions presented to the Court in briefs and oral arguments were not focused on race, racial profiling, or racial discrimination.[17] Rather, they focused on a right to privacy, and,

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[10] 2003 DOJ GUIDANCE, *supra* note 7.

[11] *See Sanctioned Bias: Racial Profiling Since 9/11*, ACLU (Feb. 2004), https://www.aclu.org/files/FilesPDFs/racial%20profiling%20report.pdf (discussing the End Racial Profiling Act proposed in 2004, which was designed to help eliminate racial, ethnic, religious, and national origin profiling).

[12] OBAMA '08, BLUEPRINT FOR CHANGE: OBAMA AND BIDEN'S PLAN FOR AMERICA 65 (2008), https://www.documentcloud.org/documents/346512-obamablueprint forchange.html [hereinafter BLUEPRINT FOR CHANGE].

[13] *Attorney General Eric Holder Speaks at the American-Arab Anti-Discrimination Committee's 30th Anniversary National Convention*, DEP'T OF JUST. (June 4, 2010), http://www.justice.gov/opa/speech/attorney-general-eric-holder-speaks-american-arab-anti-discrimination-committees-30th [hereinafter *Attorney General Eric Holder*].

[14] U.S. DEP'T OF JUST.: C.R. DIV., GUIDANCE FOR FEDERAL LAW ENFORCEMENT AGENCIES REGARDING THE USE OF RACE, ETHNICITY, GENDER, NATIONAL ORIGIN, RELIGION, SEXUAL ORIENTATION, OR GENDER IDENTITY, at 1 (2014), http://www.justice.gov/sites/default/files/ag/pages/attachments/2014/12/08/use-of-race-policy.pdf [hereinafter 2014 DOJ GUIDANCE].

[15] 133 S. Ct. 1958 (2013).

[16] *Id.* at 1966.

[17] *See* Brief for the Respondent at *1, *King*, 133 S. Ct. 1958 (No. 12–207)

accordingly, the case was briefed, argued, and decided under a Fourth Amendment analysis—i.e., whether including DNA fingerprinting as part of the arrest booking procedure constituted a reasonable search and seizure.[18] The Court nevertheless declined the opportunity to articulate the legal boundaries of a right to "genetic privacy" definitively.[19] The holding, while likely correct and intentionally narrow, has serious implications for the persistence of racial disparities in the criminal justice system, and, quite possibly, might exacerbate those racial disparities if deliberate countermeasures are not taken.

This article first provides an overview of *Maryland v. King* and the 2014 DOJ GUIDANCE regarding the use of race by law enforcement. An anthropological discussion of race, racial disparities, and racial biases is then provided for much needed context, followed by a brief review of equal protection jurisprudence. Altogether, these highlight (1) the importance of prioritizing nondiscrimination principles over privacy considerations with regard to DNA, and (2) the need for interventions that not only effectively eliminate racial profiling and other forms of intentional discrimination, but also effectively neutralize implicit racial biases and discriminatory effects in the absence of racial purpose or animus. The article concludes with a set of preliminary recommendations, including the expanded use of DNA analysis by law enforcement; the development of educational and priming interventions for witnesses, jurors, and attorneys; the passage of new legislation by Congress to establish a disparate impact analysis and prohibit racial profiling specifically; and the extension of the exclusionary rule as a judicially-inferred remedy to safeguard protections of the Fourteenth Amendment.

("Whether the Fourth Amendment permits the warrantless collection and analysis of DNA from a person who has been arrested for, but not convicted of, a criminal offense, solely for use in investigating other offenses for which there is no individualized suspicion."); Brief for the Petitioner at *i, *King*, 133 S. Ct. 1958 (No. 12–207) ("Does the Fourth Amendment allow the States to collect and analyze DNA from people arrested and charged with serious crimes?").

[18] *King*, 133 S. Ct. at 1980 (weighing the individual expectation of privacy in DNA evidence against the interests of the States).

[19] *Id.* at 1979 (noting the limitations of this ruling on future developments in DNA, i.e., the Court is not deciding new privacy issues that may arise in the future).

I. MARYLAND V. KING[20]

Facts and Procedural History

> Alonzo Jay King, Jr. was arrested in 2009 and charged with first- and second-degree assault. As part of his initial arrest, King submitted to DNA fingerprinting collected by law enforcement under the Maryland DNA Collection Act. More than half the states [] have statutes similar to Maryland's, and there is also a similar federal statute (the DNA Fingerprint Act of 2005 []). King admitted to his involvement and was ultimately convicted of second-degree assault, a misdemeanor and an offense not qualifying on its own for DNA collection upon arrest under Maryland's law. King's DNA fingerprint (or CODIS profile) was entered into the database and some months later matched a profile from an unsolved 2003 home robbery and rape case. Police obtained a warrant and collected a second DNA sample that confirmed the match. King's attorneys were unsuccessful in their attempts to suppress the DNA evidence during trial, arguing that the initial DNA collection was unconstitutional since at that time there was no individualized suspicion of King being involved in the rape and the collection was performed without a search warrant. Ultimately, King was convicted of first-degree rape and sentenced to life without parole. The DNA evidence was essential to his prosecution. King appealed the conviction, and the Maryland Court of Appeals [] ruled that the initial DNA collection was unconstitutional as applied to arrestees, holding that the defendant's privacy interests outweighed the government's interest in obtaining the information.[21]

The State of Maryland applied for a stay of the judgment, which the Supreme Court granted on July 30, 2012.[22] This allowed the

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[20] The author has previously published many of the points raised in this section. *See, e.g.*, Jennifer K. Wagner, *DNA Fingerprinting as Routine Arrest Booking Procedure Upheld as Anticipated*, GENOMICS L. REP. (June 10, 2013), http://www.genomicslawreport.com/index.php/2013/06/10/dna-fingerprinting-as-routine-arrest-booking-procedure-upheld-as-anticipated/ (discussing DNA fingerprinting in the context of Maryland v. King); Jennifer K. Wagner, *All Eyes on Maryland v. King: Recapping the Supreme Court Oral Argument*, GENOMICS L. REP. (Feb. 27, 2013), http://www.genomicslawreport.com/index.php/2013/02/27/all-eyes-on-maryland-v-king-recapping-the-supreme-court-oral-argument/ [hereinafter *All Eyes on Maryland v. King*] (discussing the arguments presented to the Court in Maryland v. King and the holding of the court).

[21] *All Eyes on Maryland v. King*, *supra* note 20. *See also State Laws for Arrestee DNA Databases*, DNA RESOURCE, http://www.dnaresource.com/documents/ArresteeDNALaws-2010.pdf (last visited Jan. 9, 2017) (listing characteristics of state laws concerning arrestee DNA databases as of August 10, 2010); 18 U.S.C. § 3142(b) (2008).

[22] Maryland v. King, 133 S. Ct. 1, 3 (2012).

state to continue DNA collection while its appeal to the Supreme Court was pending.[23] The State filed a petition for a writ of certiorari[24] on August 14, 2012, which was subsequently granted on November 9, 2012.[25]

Framing: Briefs and Oral Argument

The Petitioners (the State of Maryland) argued that the question before the court was this: "Does the Fourth Amendment allow the States to collect and analyze DNA from people arrested and charged with serious crimes?"[26] The Petitioners argued that DNA collection is a minimal intrusion: only the individual's identity is at stake; arrestees generally have a lower expectation of privacy than do other citizens; there is no reasonable expectation of privacy in identity (i.e., no right to anonymity); and the presumption of innocence does not buoy an arrestee's privacy interest.[27] Petitioners also argued that DNA fingerprinting upon arrest advances important government interests, including identification with accuracy and solving crimes expeditiously.[28]

The Respondent (King), on the other hand, framed the question before the Court as this: "Whether the Fourth Amendment permits the warrantless collection and analysis of DNA from a person who has been arrested for, but not convicted of, a criminal offense, solely for use in investigating other offenses for which there is no individualized suspicion."[29] In their reply brief, the Petitioners noted that King conceded that the reasonableness inquiry of the Fourth Amendment does not require a warrant or individualized suspicion when the intrusion is minimal.[30] The Petitioners further argued that a balancing test confirms that the search was reasonable, recognizing that King overstated his privacy interests in non-coding loci and the State's significant interests in collecting such

[23] *Id.*

[24] King v. Maryland, 42 A.3d 549 (Md. 2012), *petition for cert. filed*, 2012 WL 3527847 (U.S. Aug. 14, 2012) (No. 12–207).

[25] King v. Maryland, 42 A.3d 549 (Md. 2012), *cert. granted*, 81 U.S.L.W. 3127 (U.S. Nov. 9, 2012) (No. 12–207).

[26] Brief for the Petitioner, *supra* note 17.

[27] *Id.* at 11–21.

[28] *Id.* at 21–26.

[29] Brief for the Respondent, *supra* note 17.

[30] Reply Brief of Petitioner at 1, Maryland v. King, 133 S. Ct. 1958 (2013) (No. 12–207).

information from arrestees.[31] In addition to the briefs filed by the parties, twenty-three amicus briefs were filed in the time leading up to the date set for oral argument.[32]

At oral argument, Justice Alito described the case as "the most important criminal procedural case that this court has heard in decades."[33] The oral arguments focused on a few key questions: (1) "Which legal test shall be applied[,]" (2) "[i]s there a legitimate, reasonable expectation of privacy in one's DNA[,]" (3) "[d]oes the government have a compelling interest in having access to information about adjudicated and possible (but not yet adjudicated) criminal activity[,]" (4) "[w]hat is 'identification'[,]" and (5) "[m]ust this case be decided on the facts of today or the possibilities of tomorrow?"[34] Notably absent from the key themes of the oral arguments were considerations of racial discrimination, disparities, or biases in the criminal justice system generally or the administration of the CODIS system specifically.[35]

Court's Decision

On June 3, 2013, Justice Kennedy delivered the Court's opinion to uphold, in a 5–4 decision, Maryland's practice of DNA fingerprinting as part of their routine arrest booking procedure.[36] The Court addressed the question as framed by the Petitioner (the State of Maryland), while the dissenting justices addressed the question as framed by the Respondent (King).[37] If there was any consensus on the bench, it was that the justices agreed that the collection of DNA using a buccal swab to generate a DNA fingerprint (i.e., a CODIS profile) was a search and, accordingly, subject to limitations imposed by the Fourth Amendment—in particular, that the search must be reasonable.[38] The Fourth Amendment provides,

> 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,

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[31] *Id.* at 6–13.

[32] *Preview of U.S. Supreme Court Cases: Maryland v. King*, AM. B. ASS'N., http://www.americanbar.org/publications/preview_home/12-207.html (last visited Jan. 10, 2017).

[33] *All Eyes on Maryland v. King*, *supra* note 20.

[34] *Id.*

[35] *See infra* pp. 30–40.

[36] Maryland v. King, 133 S. Ct. 1958, 1980 (2013).

[37] *Id.*

[38] *Id.* at 1958, 1989.

> supported by Oath or affirmation, and particularly describing the place to be searched, and the person or things to be seized.[39]

The Court rejected the adoption of a per se rule that DNA fingerprinting and similar searches are always unreasonable in the absence of a warrant issued on probable cause.[40] Citing *Vernonia School District 47J v. Acton*,[41] the Court signaled that the reasonableness test, balancing the privacy interests of the individual against the government interests in the search, is appropriately applied when there is no clear precedent for the type of search in question.[42] The Court reiterated that "[t]he need for a warrant is perhaps least when the search involves no discretion"[43] by the law enforcement officer, and emphasized that DNA fingerprinting is a procedure that is standardized by CODIS.[44] The Court explained, "[w]hen probable cause exists to remove an individual from the normal channels of society and hold him in legal custody, DNA identification plays a critical role in serving those interests."[45]

The Court then discussed five distinct and legitimate governmental interests in the "identification" of arrestees.[46] Among these acknowledged interests was that identity is broadly defined and includes names, physical appearances, social security numbers, and criminal histories.[47] The task of identification, the Court explained, necessitates searching public records for identification information other than that shared willingly by the arrestee, as measures are often taken by individuals to conceal or disguise their identities.[48] The Court dismissed arguments that the processing speed makes DNA fingerprinting inferior to other methods of identification by noting that the processing speed speaks to efficacy for prompt identification, rather than constitutionality.[49] The Court concluded that DNA fingerprinting is a superior tool serving the governmental interests in arrestees' identities and subsequently explained in detail the arrestees'

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[39] U.S. CONST. amend. IV.
[40] *King*, 133 S. Ct. at 1970.
[41] 515 U.S. 646 (1995).
[42] *King*, 133 S. Ct. at 1969.
[43] *Id.*
[44] *Id.* at 1968.
[45] *Id.* at 1971.
[46] *Id.* at 1971–75.
[47] *Id.* at 1971–72.
[48] *King*, 133 S. Ct. at 1971.
[49] *Id.* at 1976.

diminished expectations of privacy in identification information.[50] The Court did not take the opportunity to articulate the boundaries of a right to genetic privacy and, instead, issued a narrow ruling interpreting the constitutionality of the Maryland statute and practice.

Justice Scalia delivered a scathing dissenting opinion to which he was joined by Justices Ginsburg, Sotomayor, and Kagan.[51] The dissenting opinion attacked both the Court's broad (and poorly-articulated) conceptualization of "identification," as well as the Court's weak rationale used to justify the application of the balancing test.[52] The dissenting justices took a much narrower view of what identification entails and specifically suggested that a CODIS profile without a name affiliated with it is "unknown."[53] This is in sharp contrast to the majority, who seemed to downplay the significance of a name as the most important identifier of an individual. The dissenting justices also attacked the analogies drawn by the Court to other types of identifying information (i.e., mug shot photos, anthropometric data, and dermatoglyphic fingerprints as compared to DNA fingerprints), not because of notable differences in the type or degree of information each method provides, but because of the Court's characterization of how those methods had come to be accepted by society as reasonable.[54] Moreover, the dissenting opinion attacked the Court's willingness to base its decision on possible uses and technical capabilities that may be forthcoming, but are not yet here.[55] Justice Scalia warned,

> The Court disguises the vast (and scary) scope of its holding by promising a limitation it cannot deliver. The Court repeatedly says that DNA testing, and entry into a national DNA registry, will not befall thee and me, dear reader, but only those arrested for []serious offense[s]. . . . Make no mistake about it: As an entirely predictable consequence of today's decision, your DNA can be taken and entered into a national DNA database if you are ever arrested, rightly or wrongly, and for whatever reason.[56]

While inviting future repudiation of this ruling, Justice Scalia seethed, "[p]erhaps the construction of such a genetic panopticon

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[50] *Id.* at 1977–78.
[51] *Id.* at 1980 (Scalia, J., dissenting).
[52] *Id.* at 1980–82.
[53] *Id.* at 1984–85.
[54] *King*, 133 S. Ct. at 1986–88.
[55] *Id.* at 1988–89.
[56] *Id.* at 1989.

is wise. But I doubt that the proud men who wrote the charter of our liberties would have been so eager to open their mouths for royal inspection."[57]

Discussion[58]

While the Court was correct in its decision not to strike down DNA fingerprinting as part of routine arrest booking procedures, it could have and should have been more articulate, fair, and honest in its rationale. The Court could have been clearer by acknowledging that genomes are never "unknown" or by establishing that genomes are an acceptable way of knowing someone's identity regardless of other possible means (such as a name or alias). To reach its holding that DNA fingerprinting of arrestees, as per the Maryland statute, is permissible under the Fourth Amendment, the Court should have articulated a categorical biometric identification exception to the Fourth Amendment's warrant clause. But the Court did not. Instead, it rested its ruling on analogies to other arrest booking procedures (namely mug shots and fingerprints).[59] Therein lies the opinion's most serious weakness, because the Supreme Court has not specifically determined those arrest booking procedures to be constitutional under the Fourth Amendment analysis.[60] Mug shots are not searches, and fingerprints were already accepted as routine arrest booking procedures when the Court considered their constitutionality.[61]

The limited scope of *Maryland v. King* is important to note. The Court did not address the other state statutes or the federal statute (i.e., the DNA Fingerprint Act of 2005).[62] The Court did not

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[57] *Id.*

[58] CAVEAT: The author has not yet had an opportunity to review other scholarship analyzing this particular decision, but is aware that works exist, including various works by David H. Kaye, Elizabeth Joh, and Keagan D. Buchanan.

[59] *King*, 133 S. Ct. at 1971–72.

[60] *See id.* at 1976–78 (noting that arrestee identification is a legitimate governmental interest).

[61] *Id.*

[62] United States v. Mitchell, 652 F.3d 387, 402 (3rd Cir. 2011) (en banc), *cert. denied*, 132 S. Ct. 1741, 1741 (2012); Jennifer K. Wagner, *Courts in Unsettled Territory Turn to the Map Available: United States v. Mitchell*, GENOMICS L. REP. (Apr. 2, 2012), http://www.genomicslawreport.com/index.php/2012/04/02/courts-in-unsettled-territory-turn-to-the-map-available-united-states-v-mitchell/ (asserting that, since the Supreme Court denied the petition of certiorari in United States v. Mitchell, the Justices seem likely to pass on the constitutionality of the DNA Fingerprint Act of 2005 only when there is a clear divide among federal

decide the permissibility of DNA fingerprinting prior to arrest (like, for example, during a Terry stop) or the permissibility of DNA fingerprinting for less serious offenses than are authorized by Maryland's relatively narrow statute.[63] This has led at least one scholar to express concern that there is little to prevent the expansion of DNA fingerprinting upon arrest to additional qualifying crimes, either in terms of the types of arrests or in reclassifying citable offenses as arrestable offenses in order to broaden the reach of DNA fingerprinting procedures.[64] Moreover, questions remain about whether state statutes broader than Maryland's would withstand scrutiny under various state constitutions that sometimes provide privacy protections above and beyond those emanating from the Fourth Amendment.[65]

It is still early to gauge the full impact of *Maryland v. King*. That the Court determined the above practice is good law (i.e., constitutionally permissible) is not synonymous with finding the practice to be good policy. It is possible that the decision could galvanize advocates of a universal DNA database to alleviate inequalities of the risks and benefits in a genomic age,[66] but it is also possible that it will galvanize opponents of genetic technologies. It does, however, mean that if racial disparities exist in arrest rates in Maryland, then DNA fingerprinting could exacerbate racial disparities in the state's forensic DNA database.

II. 2014 DOJ GUIDANCE

The long awaited 2014 DOJ GUIDANCE, just as its precursor (the 2003 DOJ Guidance) did, purports to establish requirements above and "beyond the Constitutional minimum that shall

circuit courts).

[63] *See King*, 133 S. Ct. at 1970–71 (noting that a lawful arrest authorizes a search).

[64] Elizabeth E. Joh, *Maryland v. King: Three Concerns About Policing and Genetic Information*, GENOMICS L. REP. (Sept. 19, 2013), http://www.genomicslawreport.com/index.php/2013/09/19/maryland-v-king-three-concerns-about-policing-and-genetic-information/.

[65] See *id.* (discussing limitations in the narrow holding of Maryland v. King).

[66] *See* Michelle N. Meyer, *Maryland v. King, Low-Stringency DNA Database Searches, and the Case for a Universal Database*, THE FAC. LOUNGE (June 4, 2013), http://www.thefacultylounge.org/2013/06/maryland-v-king-low-stringency-dna-searches-and-the-case-for-a-universal-database.html (last accessed 2/4/2015) (discussing the merits of a universal DNA database).

apply."[67] And while it is an improvement to its precursor, the 2014 DOJ GUIDANCE remains of questionable utility, being limited in its scope and application.[68] Quite frankly, after five years of internal review and revisions, a reasonable expectation was that the 2014 DOJ GUIDANCE would do more than make simple line edits to the same document. For an issue as entrenched in our nation's history as race and racial discrimination is, and as recent events,[69] such as #ICantBreathe and #BlackLivesMatter discourse,[70] unmistakably reveal is gnawing at our collective identities, trust in law enforcement, and the integrity of the rule of law, meaningful reforms will necessitate a thorough reframing.

The revisions to this "internal management" policy[71] were but baby steps and were not a thorough reframing. Nevertheless, the 2014 DOJ GUIDANCE does make some meaningful acknowledgements at the outset. For example, it acknowledges that "[b]iased practices . . . are unfair, promote mistrust of law enforcement, and perpetuate negative and harmful stereotypes."[72] It further acknowledges that unbiased practices are "central to the integrity, legitimacy, and efficacy" of law enforcement.[73] The 2014 DOJ GUIDANCE expanded the characteristics to which the policy applied so that, in addition to race, the policy applies to ethnicity and national origin as well as religion, gender, sexual orientation, and gender identity.[74] Moreover, the 2014 DOJ GUIDANCE clarifies that it applies to state and local officers when participating in federal law enforcement task forces and activities.[75] However, the

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[67] 2014 DOJ GUIDANCE, *supra* note 14, at 2.

[68] *Id.* at 2 n.2 (discussing the limited intentions of the 2014 DOJ GUIDANCE).

[69] Gene Demby, *Combing Through 41 Million Tweets to Show How #BlackLivesMatter Exploded*, NORTHEAST PUB. RADIO (Mar. 2, 2016), http://www.npr.org/sections/codeswitch/2016/03/02/468704888/combing-through-41-million-tweets-to-show-how-blacklivesmatter-exploded (discussing the cases resulting from the deaths of Michael Brown in Ferguson, MO and Eric Garner in Staten Island, NY, in which both grand juries failed to indict their killers).

[70] *See id.* (discussing the #ICantbreathe and #BlackLivesMatter hashtags used on social media, especially Twitter, to reflect empathy for Eric Garner and Michael Brown, as well as others who lost their lives at the hands of law enforcement, and to reflect support for law enforcement reforms specifically related to law enforcement's use of force and its biased approach towards minorities).

[71] 2014 DOJ GUIDANCE, *supra* note 14, at 2 n.2 ("This Guidance is intended only to improve the internal management of the executive branch.").

[72] *Id.* at 1.

[73] *Id.*

[74] *Id.*

[75] *Id.*

2014 DOJ GUIDANCE relies upon the same basic framework and many of the same scenarios, verbatim, as practical examples.[76] These examples often seem to be oversimplified, undermining the representation of these revisions as anything more than a gesture to appease protestors in cities across the nation.[77] Perhaps most disappointingly to those eager for "Change for America,"[78] the 2014 DOJ GUIDANCE fails to provide any remedy to those who might suffer when there is noncompliance with its rules. This is not a formal rule or regulation and, specifically as noted in the 2014 DOJ GUIDANCE,

> [t]his Guidance. . . . is not intended to, and does not, create any right, benefit, trust, or responsibility, whether substantive or procedural, enforceable at law or equity by a party against the United States . . . nor does it create any right of review in an administrative, judicial, or any other proceeding.[79]

Moreover, the 2014 DOJ GUIDANCE does not apply to other federal employees like military employees, intelligence officers, or diplomats.[80]

The most significant change the 2014 DOJ GUIDANCE makes to its precursor is new requirements of training, data collection, and accountability.[81] Unfortunately, the issued document lacks the requisite specificity one would expect after five years of consideration. The 2014 DOJ GUIDANCE requires training on the policy to be done "on a regular basis" and administered uniformly.[82] The policy did not explicitly state that the training must include education modules to mitigate implicit biases and did not provide flexibility to include education modules addressing circumstances and challenges tailored to the different geographic areas in which law enforcement agencies operate.[83] The latter is a particularly troubling oversight, given that legal authorities do now and will continue to vary from one jurisdiction to another. The

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[76] *Id.* at 2.

[77] *See* Steve Almasy & Holly Yan, *Protesters Fill Streets Across Country as Ferguson Protests Spread Coast to Coast*, CNN (Nov. 26, 2014), http://www.cnn.com/2014/11/25/us/national-ferguson-protests/ (discussing country-wide protests following the decision not to indict the officer who shot an unarmed teenager, Michael Brown).

[78] *Obama Promises Change for America*, CBS NEWS (Aug. 28, 2008), http://www.cbsnews.com/news/obama-promises-change-for-america/.

[79] 2014 DOJ GUIDANCE, *supra* note 14, at 2 n.2.

[80] *Id.*

[81] *Id.* at 11.

[82] *Id.*

[83] *Id.*

data collection is, in fact, a "tremendously powerful tool" as stated, but there are no details to ensure accuracy and no details regarding how "targeted, data-driven research projects" will be designed, approved, and conducted.[84] The accountability provision indicates that complaints for noncompliance will be handled as any other allegation of misconduct.[85]

The 2014 DOJ GUIDANCE supersedes the 2003 DOJ GUIDANCE.[86] Like its precursor, the 2014 DOJ GUIDANCE establishes two standards, one applying to domestic and routine law enforcement activities and the other applying to "all" activities other than domestic and routine law enforcement activities.[87] For routine activities, the policy bans the use of the listed characteristics "to any degree, except that officers may rely on the listed characteristics in a specific suspect description."[88] For all other activities, the policy permits the use of the listed characteristics so long as there is (1) trustworthy information that is (2) relevant geographically and temporally (3) linking persons with those characteristics "to a particular criminal incident, a particular criminal scheme, a particular criminal organization, a threat to national or homeland security, a violation of Federal immigration law, or an authorized intelligence activity."[89] Moreover, for race or another listed characteristic to be used permissibly, the law enforcement officers "must also reasonably believe that the . . . activity to be undertaken is merited under the totality of the circumstances. . . ."[90] The policy does not limit the use of listed characteristics to the investigation of past incidents, explaining that banning the use of reliable identifying information about future violations "would severely hamper law enforcement efforts by essentially compelling law enforcement officers to wait for incidents to occur, instead of taking pro-active [sic] measures to prevent them from happening."[91]

Specifically, the 2014 DOJ GUIDANCE bans use of generalized stereotypes and engagement in "the use of pretexts as an excuse to target minorities,"[92] but permits law enforcement's use of

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[84] *Id.*
[85] 2014 DOJ GUIDANCE, *supra* note 14, at 11.
[86] *Id.* at 1.
[87] *Id.* at 2–4.
[88] *Id.* at 1.
[89] *Id.* at 4.
[90] *Id.* at 2.
[91] 2014 DOJ GUIDANCE, *supra* note 14, at 9.
[92] *Id.* at 5.

eyewitness and victim descriptions to "limit their search for suspects to persons possessing that characteristic."[93]

III. CLARIFYING THE "USE OF RACE" AND "RACIAL PROFILING"

When President Bill Clinton issued a directive in 1999 to investigate the use of race by law enforcement, he explained that "[r]acial profiling is in fact the opposite of good police work where actions are based on hard facts, not stereotypes. . . . It is wrong, it is destructive and it must stop.[94] Two years later, President George W. Bush echoed that sentiment, noting racial profiling is "wrong, and we will end it in America."[95] President Barack Obama campaigned on the promise that he "will ban racial profiling,"[96] and later explained,

> [T]his still haunts us. And even when there are honest misunderstandings, the fact that blacks and Hispanics are picked up more frequently and oftentime [sic] for no cause casts suspicion even when there is good cause. And that's why I think the more that we're working with local law enforcement to improve policing techniques so that we're eliminating potential bias, the safer everybody is going to be.**[97]**

In 2010, when revisions to the 2003 DOJ GUIDANCE were forthcoming, U.S. Attorney General, Eric Holder, explained, "[r]acial profiling is wrong. It can leave a lasting scar on communities and individuals. And it is, quite simply, bad policing—whatever city, whatever state."[98] The nation waited while incidents like Travyon Martin's death in 2013 prompted an additional public statement from the White House. President Obama remarked, "I think it's important to recognize that the African American community is looking at this issue through a set of experiences and a history that doesn't go away. . . . [t]here is a

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[93] *Id.* at 4.

[94] Steven A. Holmes, *Clinton Orders Investigation on Possible Racial Profiling*, N.Y. TIMES (June 10, 1999), http://www.nytimes.com/1999/06/10/us/clinton-orders-investigation-on-possible-racial-profiling.html.

[95] President George W. Bush, 2001 Address to Congress, in *Text of President Bush's 2001 Address to Congress*, WASH. POST (Feb. 27, 2001) (transcript available at http://www.washingtonpost.com/wp-srv/onpolitics/transcripts/bush text022701.htm); *Fact Sheet: Racial Profiling*, DEP'T OF JUST. (June 17, 2003), http://www.justice.gov/archive/opa/pr/2003/June/racial_profiling_fact_sheet.pdf.

[96] BLUEPRINT FOR CHANGE, *supra* note 12.

[97] President Barack Obama, News Conference (July 22, 2009) (transcript available at http://www.whitehouse.gov/the_press_office/News-Conference-by-the-President-July-22-2009/).

[98] *Attorney General Eric Holder*, *supra* note 13.

history of racial disparities in the application of our criminal laws."[99] When the long awaited 2014 DOJ GUIDANCE was released in December 2014, President Obama stated that "[t]oo many of our citizens have cause to doubt our nation's justice . . . when the law points a finger of suspicion at groups instead of individuals."[100]

So, what exactly is "racial profiling"? Is any use of race "racial profiling"? To date the Court "has not decided a case dealing directly with 'racial profiling.'"[101] Yet, the term is not one accepted or used consistently or equivalently by everyone. For example, Jelani Cobb, writing for The New Yorker, recently dismissed the term, "[t]here is no such thing as 'racial profiling'—there is simply racism."[102] "Racial profiling" is defined by Black's Law Dictionary as "[t]he law-enforcement practice of using race, national origin, or ethnicity as a salient basis for suspicion of criminal activity."[103] The End Racial Profiling Act of 2013, introduced by Senator Benjamin Cardin of Maryland in the 113th Congress as S.1038, defined "racial profiling" as

> the practice of a law enforcement agent or agency relying, to any degree, on race, ethnicity, national origin, or religion in selecting which individual to subject to routine or spontaneous investigatory activities or in deciding upon the scope and substance of law enforcement activity following the initial investigatory procedure, except when there is trustworthy information, relevant to the locality and timeframe, that links a person of a particular race, ethnicity, national origin, or religion to an identified criminal incident or scheme.**[104]**

The 2014 DOJ GUIDANCE follows this definition closely.[105] Terms having considerable social import, such as "racial profiling," demand careful definition and should not be used loosely. A clear

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[99] President Barack Obama, Remarks by the President on Trayvon Martin (July 19, 2013) (transcript available at http://www.whitehouse.gov/the-press-office/2013/07/19/remarks-president-trayvon-martin).

[100] Emily Badger, *The Long, Halting, Still-Unfinished Fight to End Racial Profiling in America*, WASH. POST (Dec. 5, 2014), http://www.washingtonpost.com/blogs/wonkblog/wp/2014/12/05/the-long-halting-still-unfinished-fight-to-end-racial-profiling-in-america/.

[101] Brooks Holland, *Racial Profiling and a Punitive Exclusionary Rule*, 20 TEMP. POL. & CIV. RTS. L. REV. 29, 34 (2010) (quoting ERWIN CHEMERINSKY & LAURIE L. LEVENSON, CRIMINAL PROCEDURE INVESTIGATION 255 (2008).

[102] Jelani Cobb, *No Such Thing as Racial Profiling*, THE NEW YORKER (Dec. 4, 2014), http://www.newyorker.com/news/news-desk/eric-garner-racial-profiling.

[103] *Racial Profiling*, BLACK'S LAW DICTIONARY (10th ed. 2014).

[104] End Racial Profiling Act of 2013, S.1038, 113th Cong. (2013).

[105] *See* 2014 DOJ GUIDANCE, *supra* note 14, at 5 (discussing problematic pretexts used to make arrests).

and precise definition is needed. Meaningful distinctions can be made (1) when the specific evidence introduces the use of the characteristic (i.e., race, ethnicity, or national origin), or an officer introduces the use of the characteristic, and (2) when the characteristic is used retroactively to investigate a crime that has already been committed, or when the information is used prospectively to investigate or prevent future crimes.[106] The use of specific information initiated by the evidence and applied retrospectively to a crime that has been committed is often called "criminal profiling."[107] This is not only considered to be permissible, but also an appropriate investigative procedure for crime-solving, as it minimizes unnecessary police encounters, preserves resources, and does not rest on investigator biases and prejudices.[108] The former type—i.e., the use of information initiated by the officer based on hunches or explicit prejudices and applied prospectively—is considered not only impermissible but also morally repugnant and ineffective, as it relies on gross generalizations and statistical stereotypes (in other words, the user incorrectly draws non-distributive generalizations) to imply higher probabilities or even causation of criminality.[109]

IV. CONTEXTUAL CONSIDERATIONS: RACE, RACIAL DISPARITIES, AND BIASES

Stark and persistent racial disparities among the culturally constructed races exist in all facets of the criminal justice system, including investigations, arrests, convictions, and sentencing.[110] For example, there are disparities in searches and investigations. Blacks and Hispanics are three times more likely than Whites to

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[106] *See* Lindsy A. Elkins, Note, *Five Foot Two with Eyes of Blue: Physical Profiling and the Prospect of a Genetics-Based Criminal Justice System*, 17 NOTRE DAME J.L. ETHICS & PUB. POL'Y 269, 286–87 (2003) (discussing the differences between physical profiling and racial profiling).

[107] Jennifer K. Wagner, *Just the Facts, Ma'am: Removing the Drama from DNA Dragnets*, 11 N.C. J. L. & TECH. 51, 99–100 (2009).

[108] Elkins, *supra* note 106, at 289.

[109] *See id.* at 286 (discussing racial profiles).

[110] Racial disparities exist in other aspects of society as well, including biomedical research and health care, among others. The scope of this article is narrowly-focused on racial disparities in the criminal justice system. *See generally* Andrew Kahn & Chris Kirk, *What it's like to be Black in the Criminal Justice System*, SLATE (Aug. 9, 2015), http://www.slate.com/articles/news_and_politics/crime/2015/08/racial_disparities_in_the_criminal_justice_system_eight_charts_illustrating.html (discussing racial disparities in all aspects of the criminal justice system).

be searched during a traffic stop, and Blacks are roughly four times more likely than Whites to experience the use of force during encounters with law enforcement.[111] Blacks are arrested at rates three times those of other races.[112] There are also disparities in the lifetime likelihood of imprisonment. According to the Bureau of Justice Statistics, the lifetime likelihood of imprisonment for all men is 1 in 9 and for all women is 1 in 56.[113] For White men,[114] the lifetime likelihood of imprisonment is 1 in 17, compared to 1 in 6 for Latino men, and 1 in 3 for Black men.[115] The trends are consistent for women: the lifetime likelihood of imprisonment is 1 in 111 for White women, 1 in 45 for Latina women, and 1 in 18 for Black women.[116] Homicide cases for which the death penalty has been imposed show dramatic disparities as well, with three-quarters of the executions since 1977 involving cases in which the victim was White (yet approximately half of all homicide victims were African-Americans).[117] Prosecutors are less likely to seek the death penalty if the victim is Black.[118] Black defendants are reportedly three times as likely to receive the death penalty as White defendants when the victim was White.[119] Factors contributing to these disparities are complex yet well documented.

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[111] *Department of Justice Statistics Show Clear Pattern of Racial Profiling*, ACLU (Apr. 29, 2007), https://www.aclu.org/racial-justice/department-justice-statistics-show-clear-pattern-racial-profiling.

[112] *See* Brad Heath, *Racial Gap in U.S. Arrest Rates: "Staggering disparity"*, USA TODAY (Nov. 19, 2014), http://www.usatoday.com/story/news/nation/2014/11/18/ferguson-black-arrest-rates/19043207/ (citing the fact that Ferguson police arrest black men at three times the rate as other races).

[113] Thomas P. Bonczar, *Prevalence of Imprisonment in the U.S. Population, 1974–2001*, U.S. DEP'T OF JUST.: BUREAU OF JUST. STAT. (Aug. 2003), https://www.bjs.gov/content/pub/pdf/piusp01.pdf (discussing gender disparities further is outside the scope of this article).

[114] A quick word about terminology is necessary. Race, ethnicity, and ancestry are not uniformly or consistently studied and reported. In this article, when referencing statistics and comments from existing bodies of literature, I consistently use the terms that appear in the original work cited—even if my personal understanding of the issue presses upon me the need to be more accurate, precise, and respectful to the individuals being discussed.

[115] Bonczar, *supra* note 113.

[116] *Id.*

[117] *United States of America: Death by Discrimination—the Continuing Role of Race in Capital Cases*, AMNESTY INT'L, at 1 (Apr. 2003), http://www.amnestyusa.org/our-work/issues/death-penalty/us-death-penalty-facts/death-penalty-and-race?id=1101091.

[118] *Id.* at 8.

[119] *Death Penalty and Race*, AMNESTY INT'L USA, http://www.amnestyusa.org/our-work/issues/death-penalty/us-death-penalty-facts/death-penalty-and-race (last visited Jan. 12, 2017).

However, a unified and holistic understanding and development of feasible and comprehensive policy solutions to mitigate these disparities have been delayed, disrupted, and frustrated by the scattered information locked away (dare I say, segregated) in various academic silos.

While it is well established that there are no biological human races,[120] cultural constructs of human races (which have relied on perceived biological differences) are real, many, and variable.[121] Racial discrimination, a known contributor to psychological and physiological health problems,[122] is not an equal opportunity offender and is correlated to the individual's appearance (e.g., skin color influences attractiveness preferences, character stereo-

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[120] *See generally* Jeffrey C. Long, *Update to Long and Kittles's "Human Genetic Diversity and the Nonexistence of Biological Races" (2003): Fixation on an Index*, 81 HUM. BIOLOGY 799, 799 (2010) (suggesting that the presence of biological races is more of a perception than a reality); Jeffrey C. Long & Rick A. Kittles, *Human Genetic Diversity and the Nonexistence of Biological Races*, 75 HUM. BIOLOGY 449, 449–50 (2003); Guido Barbujani et al., *An Apportionment of Human DNA Diversity*, 94 PROC. NAT'L. ACAD. SCI. USA 4516, 4516 (1997); Richard C. Lewontin, *The Apportionment of Human Diversity*, 6 J. EVOLUTIONARY BIOLOGY 381, 397 (1972); S O Y Keita et al., *Conceptualizing Human Variation*, 36 NATURE GENETICS SUPPLEMENT S17, S18 (2004); Michael Bamshad et al., *Deconstructing the Relationship Between Genetics and Race*, 5 NATURE REVIEWS: GENETICS 598, 608 (2004); Noah A. Rosenberg et al., *Genetic Structure of Human Populations*, 298 SCI. MAG. 2381, 2381 (2002).

[121] *See* Dr. Melissa Nobles, *History Counts: A Comparative Analysis of Racial/Color Categorization in US and Brazilian Censuses*, 90 AM. J. PUB. HEALTH 1738, 1741 (2000) (discussing the social constructs of race); Anthony J. Christopher, *Race and the Census in the Commonwealth*, 11 POPULATION, SPACE AND PLACE 103, 103 (2005); Karen E. Ferree, *Explaining South Africa's Racial Census*, 68 J. POL. 803, 803 (2006); IAN HANEY LÓPEZ, WHITE BY LAW: THE LEGAL CONSTRUCTION OF RACE xvi (New York University Press, 10th anniversary ed. 2006).

[122] *See* Clarence C. Gravlee et al., *Genetic Ancestry, Social Classification, and Racial Inequalities in Blood Pressure in Southeastern Puerto Rico*, 4 PLOS ONE 1, 1–2 (2009) (demonstrating a relationship between racial discrimination and health); Roberto Cardarelli et al., *Self-Reported Racial Discrimination, Response to Unfair Treatment, and Coronary Calcification in Asymptomatic Adults - the North Texas Healthy Heart Study*, 10 BMC PUB. HEALTH 285, 285 (2010); David R. Williams & Selina A. Mohammed, *Discrimination and Racial Disparities in Health: Evidence and Needed Research*, 32 J. BEHAV. MED. 20, 20–21 (2009); Dr. Nancy Krieger et al., *Experiences of Discrimination: Validity and Reliability of a Self-Report Measure for Population Health Research on Racism and Health*, 61 SOC. SCI. & MED. 1576, 1584, 1586 (2005); Dr. Nancy Krieger et al., *Combining Explicit and Implicit Measures of Racial Discrimination in Health Research*, 100 AM. J. PUB. HEALTH 1485, 1489 (2010).

typing, and perceived health)[123] and racial identity.[124] Attempts to identify and mitigate the genetic and environmental factors contributing to those inequalities require consistent classification of individual research participants, thereby illustrating the complex adaptive relationship between science and culture. The placement of an individual whose parents identify as or are classified into different groups is inherently problematic and results in researchers (1) classifying the individual as a member (a) of one group employing sociopolitical rules of ancestry (e.g., hypodescent or hyperdescent), (b) of both groups, or (c) of neither group, but instead of a distinct and combinatory group; (2) allowing the individual to self-identify; or (3) excluding the individual from research.[125] The classification process inevitably masks underlying variation (biological and cultural) within any particular group. Contributing to our confusion, biomedical research designs have used race, ethnicity, skin color, genealogical ancestry, and genomic ancestry and have employed various terms inconsistently.[126] How individuals (laypersons, scientists,

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[123] *See generally* KATHY RUSSELL-COLE ET AL., THE COLOR COMPLEX: THE POLITICS OF SKIN COLOR AMONG AFRICAN AMERICANS 62, 68 (First Anchor Books 1993) (demonstrating a relationship between skin color and physical appearance); Kenneth B. Clark & Mamie Phipps Clark, *What do Blacks Think of Themselves?*, EBONY 176, 176–82 (1980); Verna M. Keith & Cedric Herring, *Skin Tone and Stratification in the Black Community*, 97 AM. J. SOC. 760, 760 (1991); Bernhard Fink et al., *Human (Homo sapiens) Facial Attractiveness in Relation to Skin Texture and Color*, 115 J. COMP. PSYCHOL. 92, 92 (2001); Pierre L. van den Berghe & Peter Frost, *Skin Color Preference, Sexual Dimorphism and Sexual Selection: a Case of Gene Culture Co-Evolution?*, 9 ETHNIC & RACIAL STUD. 87, 106 (1986); Esteban J. Parra, *Human Pigmentation Variation: Evolution, Genetic Basis, and Implications for Public Health*, 50 Y.B. PHYSICAL ANTHROPOLOGY 85, 99 (2007); Angela P. Harris, *From Color Line to Color Chart: Racism and Colorism in the New Century*, 10 BERKELEY J. AFR.-AM. L. & POL' Y 52, 53–55 (2008); Taunya Lovell Banks, *Colorism: A Darker Shade of Pale*, 47 UCLA L. REV. 1705, 1746 (2000).

[124] *See generally* Adam Benforado, *Frames of Injustice: The Bias We Overlook*, 85 IND. L. J. 1333, 1345 (2010) (demonstrating a relationship between racial discrimination and identity); Kira Hudson Banks & Laura P. Kohn-Wood, *The Influence of Racial Identity Profiles on the Relationship Between Racial Discrimination and Depressive Symptoms*, ILL. WESLEYAN (2007), http://digitalcommons.iwu.edu/cgi/viewcontent.cgi?article=1006&context=psych_scholarship; Irene V. Blair et al., *The Role of Afrocentric Features in Person Perception: Judging by Features and Categories*, J. PERSONALITY & SOC. PSYCHOL. 5, 18 (2002).

[125] *See generally Standards for the Classification of Federal Data on Race and Ethnicity*, OFF. MGMT. & BUDGET (Aug. 28, 1995), https://www.whitehouse.gov/omb/fedreg_race-ethnicity (recognizing the limitations of racial and ethnic classifications).

[126] H. Shanawani et al., *Non-Reporting and Inconsistent Reporting of Race and*

physicians, attorneys, juries, employers, law enforcement officers, etc.) conceptualize and visualize different and normal human variation is more nuanced than the categorical perspective that predominated the 20th Century (including its segregation and anti-miscegenation laws and post-Civil Rights Movement affirmative action policies).[127] More than 3 million interracial couples were counted in the 2000 U.S. Census,[128] one in seven new U.S. marriages is inter-racial or inter-ethnic according to the 2010 U.S. Census figures,[129] and 16 million individuals are projected to self-identify as multiracial by 2050.[130] Yet, study designs in biomedical research and many anti-discrimination mechanisms, as well as analyses in law, continue to rely, to a large extent, on antiquated categorical concepts of ancestry and culturally-constructed races.[131]

> Siblings who share the same biological parents (and, by extension, the same ancestors) may self-identify differently when asked about race; may look quite different in terms of physical appearance (including skin color, eye color, hair color and texture, and facial features); may be perceived by others as having different ancestries; and may even have different proportional genomic ancestries.[132]

Racial identity is complex and related to, but not wholly determined by, physical appearance and genealogical ancestry.[133] How individuals of recent admixture self-identify and are identified by others is shaped, to an unknown degree, by our expectations about how an individual of a particular ancestry

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Ethnicity in Articles that Claim Associations Among Genotype, Outcome, and Race or Ethnicity, 32 J. MED. ETHICS (Dec. 2006), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2563355/.

[127] Lauren Sudeall Lucas, *Functionally Suspect: Reconceptualizing* [sic] *"Race" as a Suspect Classification*, 20 MICH. J. RACE & L. 255, 277 (2015).

[128] Mireya Navarro, *Who Are We? New Dialogue on Mixed Race*, N.Y. TIMES (Mar. 31, 2008), http://www.nytimes.com/2008/03/31/us/politics/31race.html.

[129] Jeffrey S. Passel et al., *Marrying Out: One-in-Seven New U.S. Marriages is* [sic] *Interracial or Interethnic*, PEW RES. CTR. (June 15, 2010), http://pewsocialtrends.org/files/2010/10/755-marrying-out.pdf.

[130] Sam Roberts, *In a Generation, Minorities may be the U.S. Majority*, N.Y. TIMES (Aug. 13, 2008), http://www.nytimes.com/2008/08/14/washington/14census.html.

[131] Timothy Caulfield et al., *Race and Ancestry in Biomedical Research: Exploring the Challenges*, 1 GENOME MED. 8.1, 8.2–8.3 (2009).

[132] Jennifer K. Wagner, *Researchers Will Explore a Wide Range of Human Traits and their Variability*, GET CONF. (Apr. 29, 2014), http://www.getconference.org/get2014/labs.html.

[133] *See* RUSSELL-COLE, *supra* note 123, at 7 (explaining how racial identity recognition in Brazil acknowledges the interplay of ancestry and physical appearance).

"should" look.[134] For example, cosmetic surgeons have noted patients "like to maintain" their racial identity and "do not want to lose important facial features that exhibit racial character."[135] Cognitive scientists have repeatedly observed these prejudices in facial recognition as "the own race bias" or "other race effect."[136] Comedians have exposed laypersons to the phenomena,[137] and digital cameras with automatic features have been noted to suffer from racial biases.[138] Blatant prejudices and subtle perception deficits are known contributors to inaccuracies in eyewitness identifications.[139] Perceived ancestry (i.e., estimates of ancestry

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[134] *See, e.g.*, Ama Mazama, *The Barack Obama Phenomenon*, 38 J. BLACK STUD. (SPECIAL ISSUE) 3, 3–4 (2007) (explaining that Barack Obama should look one way, as evidenced by his visible blackness, but that, surprisingly, he has been able to transcend race); *see also* Gary Kamiya, *Cablinasian* [sic] *Like Me: Tiger Woods' Rejection of Orthodox Racial Classifications Points the Way to a Future Where Race Will No Longer Define Us*, POL. ECON. (Apr. 30, 1997), http://www.political-economy.net/human_geography/activities/u4-tiger_woods-article.pdf (discussing the outrage when a visibly black Tiger Woods defined himself as "Cablinasian" [sic]).

[135] Andrew Lam, *The Asian Face and the Rise of Cosmetic Surgery*, HUFFINGTON POST (May 21, 2013), http://www.huffingtonpost.com/andrew-lam/the-asian-face-and-the-ri_b_2926010.html.

[136] Gillian Rhodes et al., *Race Coding and the Other-Race Effect in Face Recognition*, SAGE JOURNALS (Feb. 2009), http://pec.sagepub.com/content/38/2/232; Catherine J. Mondloch et al., *Processes Underlying the Cross-Race Effect: An Investigation of Holistic, Featural, and Relational Processing of Own-Race Versus Other-Race Faces*, SAGE JOURNALS (Aug. 2010), http://pec.sagepub.com/content/39/8/1065; Benjamin Balas & Charles A. Nelson, *The Role of Face Shape and Pigmentation in Other-Race Face Perception: An Electrophysiological Study*, NCBI (Jan. 2010), https://www.ncbi.nlm.nih.gov/pubmed/19836406; Caroline Michel et al., *Race Categorization Modulates Holistic Face Encoding*, ERIC (Sept. 2007), http://eric.ed.gov/?id=EJ780860; James W. Tanaka et al., *A Holistic Account of the Own-Race Effect in Face Recognition: Evidence from a Cross-Cultural Study*, SCIENCEDIRECT (Aug. 2004), http://www.sciencedirect.com/science/article/pii/S0010027703002336; James W. Tanaka & Lara J. Pierce, *The Neural Plasticity of Other-Race Face Recognition*, NCBI (Mar. 2009), https://www.ncbi.nlm.nih.gov/pubmed/19246333; Sophie Lebrecht et al., *Perceptual Other-Race Training Reduces Implicit Racial Bias*, 4 PLOS ONE e4215, e4215 (2009), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0004215#references.

[137] *See* Rush Hour 2: Quotes, IMDB, http://www.imdb.com/title/tt0266915/quotes?item=qt0319122 (last visited Feb. 4, 2017) (noting that during a fight scene with Chinese men, Chris Tucker's character says to Jackie Chan's character, "All y'all look alike.").

[138] Paul McDougall, *HP Probes "Racist" Webcam Claim*, INFORMATIONWEEK (Dec. 22, 2009), www.informationweek.com/story/showArticle.jhtml?articleID=222002986;oz; *Racist Camera! No, I did not Blink . . . I'm Just Asian!*, JOZJOZJOZ (May 13, 2009), http://www.jozjozjoz.com/2009/05/13/racist-camera-no-i-did-not-blink-im-just-asian/.

[139] Gary L. Wells et al., *Eyewitness Evidence: Improving its Probative Value*, 7

made subjectively by a set of observers upon visual inspection of an individual's face) is now measurable,[140] providing us with an opportunity to clarify subtle prejudices and perception deficits and begin to unravel the entangled phenomena of racism, colorism, and beautyism.

The relationships between categorical race, racial identity, and appearance, and genealogical, genomic, and perceived ancestry are not well understood, a problem identified as the Grand Challenge III-2 in the "vision for the future of genomics research," set forth by Francis Collins and his colleagues in 2003.[141] "The level of discordance between an individual's appearance, perceived ancestry, and proportional genomic ancestry may affect the formation and stability of an individual's racial identity, the frequency and severity of discrimination the individual experiences, and even the individual's own prejudices."[142] Furthermore, while racial and ethnic minorities are underrepresented in biomedical research and personal genomics databases (such as 23andMe),[143] they are overrepresented in forensic databases (such as CODIS).[144] This dynamic effectively means that racial and ethnic minorities in the United States have fewer anticipated benefits and face heightened potential risks

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PSYCHOL. SCI. IN PUB. INT. 45, 52 (2006), https://public.psych.iastate.edu/glwells/Wells%20pdfs/2000-2009/Wells_Memon_Penrod_2006_PSPI.pdf; Brandon L. Garrett, *Judging Innocence*, 108 COLUM. L. REV. 55, 129 n.283 (2008); Dr. Nancy K. Steblay, *Improving the Accuracy of Eyewitness Evidence*, *in* ADAPTING TO NEW EYEWITNESS IDENTIFICATION PROCEDURES: LEADING EXPERTS ON CHALLENGING TRADITIONAL PROCESSES AND INTEGRATING NEW TECHNIQUES 1, 2 (Aspatore Law Books, 2010).

[140] *See generally* Yann C. Klimentidis & Mark D. Shriver, *Estimating Genetic Ancestry Proportions from Faces*, 4 PLOS ONE (2009), http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0004460 (explaining a scientific experiment during which participants were asked to quantify the ethnicities present in photographs of subjects, leading to the conclusion that perceived ancestry is measurable).

[141] Francis S. Collins et al., *A Vision for the Future of Genomics Research*, 422 NATURE PUB. GROUP 835, 844 (2003), http://www.nature.com/nature/journal/v422/n6934/full/nature01626.html.

[142] Wagner, *supra* note 132.

[143] *See, e.g.*, Katarzyna Bryc et al., *The Genetic Ancestry of African Americans, Latinos, and European Americans Across the United States*, 96 AM. J. HUM. GENETICS 37, 48–49 (2015) (explaining that the lower levels of representation in 23andMe's testing is due to the geographic sampling and cost factors which skew the analysis towards the underrepresentation of minorities).

[144] Mark A. Rothstein & Meghan K. Talbott, *The Expanding Use of DNA in Law Enforcement: What Role for Privacy?*, 34 J.L. MED. & ETHICS 153, 154 (2006); David H. Kaye, *Two Fallacies About DNA Data Banks for Law Enforcement*, 67 BROOK. L. REV. 179, 194–96 (2001).

related to the widespread use of genetic information. This is the reality. It is against this backdrop of racial disparities in criminal justice and this context of American population history, demography, and development that we must discuss the legal implications and considerations surrounding genetic and genomic science and technologies in law enforcement and in the courtroom. And it is against this backdrop that "equal protection" must be safeguarded.

V. EQUAL PROTECTION ANALYSIS

In 1996, the Court noted unequivocally "that the Constitution prohibits selective enforcement of the law based on considerations such as race."[145] As Justice Scalia wrote for the unanimous Court in *Whren v. United States*,[146] "the constitutional basis for objecting to intentionally discriminatory application of laws is the Equal Protection Clause, not the Fourth Amendment"[147] and its protections from unreasonable searches and seizures.[148] Whether the Equal Protection Clause is able to safeguard against implicit racial biases and unintentional or structural discriminatory application of laws is less certain. The Court acknowledged a decade ago, "[r]ace discrimination is 'especially pernicious in the administration of justice.' . . . And public respect for our system of justice is undermined when the system discriminates based on race."[149] The point underscored in *Whren v. United States* effectively closed the door to discussions of racial profiling in the very legal context where law enforcement is typically too constrained and undermined to address race, racial discrimination, and biases in policing in the courtroom.[150]

The Fourteenth Amendment, ratified nearly 150 years ago, provides that "[n]o State shall make or enforce any law which shall . . . deny to any person within its jurisdiction the equal

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[145] Whren v. United States, 517 U.S. 806, 813 (1996).

[146] 517 U.S. 806 (1996).

[147] *Id.* at 813.

[148] *Id.* at 809.

[149] Johnson v. California, 543 U.S. 499, 511 (2005) (quoting Rose v. Mitchell, 443 U.S. 545, 555 (1979) and Batson v. Kentucky, 476 U.S. 79, 99 (1986)).

[150] *Whren*, 517 U.S. at 813 ("We of course agree with petitioners that the Constitution prohibits selective enforcement of the law based on considerations such as race. But the constitutional basis for objecting to intentionally discriminatory application of laws is the Equal Protection Clause, not the Fourth Amendment. Subjective intentions play no role in ordinary, probable-cause Fourth Amendment analysis.").

protection of the laws."[151] The Equal Protection Clause is made applicable to the federal government through the Due Process Clause of the Fifth Amendment, which contains an equal protection component.[152] The Fourteenth Amendment further provides that "Congress shall have the power to enforce, by appropriate legislation, the provisions of this article."[153] A well-recognized example of Congress exercising this constitutional power and authority is the Civil Rights Act of 1964.[154] To assess the impact of *Whren* requires a review of equal protection jurisprudence. Many years before *Whren*, in *Washington v. Davis*,[155] the Court rejected the notion that a law or other official conduct would be unconstitutional "[s]olely because it has a racially disproportionate impact."[156] The Court explained the Fourteenth Amendment's "central purpose" was to prevent "official conduct discriminating on the basis of race," and that the Fifth Amendment "contains an equal protection component prohibiting the United States from invidiously discriminating between individuals or groups."[157] The Court required both discriminatory purpose and discriminatory effect be shown and noted that "[n]ecessarily, an invidious discriminatory purpose may often be inferred from the totality of the relevant facts. . . ."[158] The Court reasoned that "[d]isproportionate impact is not irrelevant, but it is not the sole touchstone of an invidious racial discrimination forbidden by the Constitution."[159] The Court was reluctant to extend a disparate impact doctrine and explained that "extension of the rule beyond those areas where it is already applicable by reason of statute . . . should await legislative prescription."[160]

The Court indicating at a time so proximate to the Civil Rights movement itself that it should exercise judicial restraint and await

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[151] U.S. CONST. amend. XIV, § 1.

[152] *See, e.g.*, Beller v. Middendorf, 632 F.2d 788, 801 n.8 (9th Cir. 1980) ("The due process clause of the fifth amendment includes equal protection components, and fifth amendment equal protection claims are treated the same as fourteenth amendment equal protection claims.").

[153] U.S. CONST. amend. XIV, § 5.

[154] Civil Rights Act of 1964, Pub. L. No. 88–352, 78 Stat. 252 (1964) (codified as amended in scattered sections of 2 U.S.C., 28 U.S.C., and 42 U.S.C.).

[155] 426 U.S. 229 (1976).

[156] *Id.* at 239.

[157] *Id.* (citing Bolling v. Sharpe, 347 U.S. 497, 499 (1954)).

[158] *Id.* at 242.

[159] *Id.*

[160] *Id.* at 248.

a Congressional directive to apply the disparate impact doctrine is not the same as holding that the disparate impact doctrine would not be mandated by our nation's living Constitution if questioned again on this issue at a later date and under different circumstances. Moreover, Justice Stevens' concurrence highlighted that the distinction between discriminatory purpose and effect is merely semantic when the discriminatory impact is obvious (like in *Yick Wo v. Hopkins*),[161] and explained that "the line between discriminatory purpose and discriminatory impact is not nearly as bright, and perhaps not quite as critical, as the reader of the Court's opinion might assume."[162] In subsequent cases, the Court suggested that a three-factor standard must be met for a criminal defendant to establish an equal protection violation: (1) membership in a group "singled out for different treatment," (2) a "substantial degree of differential treatment," and (3) "the allegedly discriminatory procedure is susceptible to abuse or is not racially neutral."[163] The burden then would shift to the government to show that a legitimate set of "criteria and procedures yielded this racially skewed result."[164]

It at least seemed plausible, however unlikely, from *Washington v. Davis* that discriminatory purpose could be inferred from a totality of the circumstances, and that government officials could be presumed to have intended the logical consequences of policies for which they were aware would have discriminatory effects. However, the Court later in *Personnel Administrator of Massachusetts v. Feeney*[165] articulated a harder and brighter line than Justice Stevens had in mind.

> "[D]iscriminatory purpose" . . . implies more than intent as volition or intent as awareness of consequences. . . . It implies that the

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[161] 118 U.S. 356 (1886); *Id.* at 368, 373–74 (striking down a San Francisco laundry ordinance where the ordinance was written so narrowly, albeit with neutral terms and criteria, that the only persons "similarly situated" were Chinese launderers. The Court explained that "[t]hough the law itself be fair on its face, and impartial in appearance, yet, if it is applied and administered by public authority with an evil eye and an unequal hand so as practically to make unjust and illegal discriminations between persons in similar circumstances, material to their rights, the denial of equal justice is still within the prohibition of the constitution.").

[162] *Davis*, 426 U.S. at 254.

[163] McCleskey v. Kemp, 481 U.S. 279, 352–53 (1987) (citing Batson v. Kentucky, 476 U.S. 79, 92–93 (1986) and Castaneda v. Partida, 430 U.S. 482, 493–94 (1977)).

[164] *Id.* at 359.

[165] 442 U.S. 256 (1979).

> decisionmaker [sic], in this case a state legislature, selected or reaffirmed a particular course of action at least in part "because of," not merely "in spite of," its adverse effects upon an identifiable group.[166]

This hardening of the rule, as Justice Brennan explained while dissenting in *McCleskey v. Kemp*,[167] "converts a rebuttable presumption into a virtually conclusive one."[168] It is important to recognize that

> [t]he protections afforded by the Fourteenth Amendment are not left at the courtroom door. . . . "Discrimination on the basis of race, odious in all aspects, is especially pernicious in the administration of justice." . . . Disparate enforcement of criminal sanctions "destroys the appearance of justice and thereby casts doubt on the integrity of the judicial process."[169]

This line of equal protection jurisprudence,[170] requires an extraordinarily high bar to establish circumstances in which discriminatory purpose could be inferred.[171] In the rare instance that such a claim is proven, the appropriate remedy is to invalidate the conviction.[172]

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[166] *Id.* at 279.

[167] 481 U.S. 279 (1987) (a landmark case in which Georgia's death penalty was challenged under the Eighth and Fourteenth Amendments).

[168] *Id.* at 337. Notably, this dissenting opinion by Justice Brennan, joined by Justices Marshall, Blackmun, and Stevens, in defending the strength of the Baldus study provided as clear evidence of racial impact, addressed physical features, in that "the evaluation of evidence suggesting such a correlation must be informed not merely by statistics, but by history and experience. One could hardly contend that this Nation has on the basis of hair color inflicted upon persons deprivation comparable to that imposed on the basis of race." *Id.* at 341.

[169] *Id.* at 346 (quoting Rose v. Mitchell, 443 U.S. 545, 555–56 (1979)).

[170] There are cases on bias in the selection of petit juries and the use of peremptory strikes that have not been reviewed in this article. *See* Hernandez v. New York, 500 U.S. 352, 363 (1991) ("Once the prosecutor offers a race-neutral basis for his exercise of peremptory challenges, 'the trial court then [has] the duty to determine if the defendant has established purposeful discrimination.'" (citing Batson v. Kentucky, 476 U.S. 79, 98 (1986))); *see also* Powers v. Ohio, 499 U.S. 400, 402 (1991) (examining whether the criminal defendant's right, under the Equal Protection Clause, was violated when the race of the defendant and the race of the challenged and excluded juror were the same); *see also* Holland v. Illinois, 493 U.S. 474, 482 (1990) (noting that the requirement of an impartial jury does not compel peremptory challenges).

[171] *See* Michael Selmi, *Proving Intentional Discrimination: The Reality of Supreme Court Rhetoric*, 86 GEO. L.J. 279, 287 (1997) (examining the Supreme Court's jurisprudence relating to the definition and treatment of intentional discrimination).

[172] *McCleskey*, 481 U.S. at 348 (citing *Rose*, 443 U.S. at 555–56).

In *United States v. Armstrong*,[173] a case decided just one month before *Whren*, the defendant-petitioner claimed the selective enforcement of powder and crack cocaine possession laws.[174] Chief Justice Rehnquist, delivering the opinion of the Court, explained that "[a] selective-prosecution claim is not a defense on the merits to the criminal charge itself, but an independent assertion that the prosecutor has brought the charge for reasons forbidden by the Constitution."[175]

The Court in *Armstrong* acknowledged that prosecutorial discretion is "'subject to constitutional constraints'" and that "'ordinary equal protection standards'" apply. [176] Nevertheless, the Court seemed to adhere to a more demanding burden of proof, expressed its unwillingness to second-guess the executive branch, and gave extensive deference to prosecutorial discretion.[177] "'[I]n the absence of clear evidence to the contrary, courts presume that they [prosecutors] have properly discharged their official duties.'"[178]

In sum, equal protection rights, as they relate to the criminal justice system, could in theory form the basis to challenge any stage of criminal proceedings (investigations, arrests, jury selection, and sentencing) as being racially discriminatory, however, the burden of proof is significant given that petitioners must establish a discriminatory purpose as well as a discriminatory effect.[179] This complicates the ability to combat implicit racial biases. Some scholars have argued that this result is not an indication of a "system malfunction," but rather is reflective of a functioning criminal justice system designed to oppress and discriminate against minorities.[180]

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[173] 517 U.S. 456 (1996).

[174] *Id.* at 458.

[175] *Id.* at 463.

[176] *Id.* at 464–65 (first quoting United States v. Batchelder, 442 U.S. 114, 125 (1970); then quoting Wayte v. United States, 470 U.S. 598, 608 (1985)).

[177] *Id.* at 465.

[178] *Id.* at 464 (quoting United States v. Chemical Foundation, Inc., 272 U.S. 1, 14–15 (1926)).

[179] Batson v. Kentucky, 476 U.S. 79, 96 (1986).

[180] *See, e.g.*, Dorothy E. Roberts, *Constructing a Criminal Justice System Free of Racial Bias: An Abolitionist Framework*, 39 COLUM. HUM. RTS. L. REV. 261, 262–63 (2007) (arguing the criminal justice system functions to "subordinate black people and maintain the racial caste system," and the only "moral remedy" is abolition).

VI. RECOMMENDATIONS AND CONCLUSION

Together, these executive and judicial developments highlight (1) the importance of prioritizing nondiscrimination principles over privacy considerations with regard to DNA and (2) the need for interventions that effectively neutralize implicit racial biases, as well as eliminate racial profiling and other forms of intentional discrimination. A few recommendations are possible to neutralize implicit racial biases, including the expanded use of DNA analysis (specifically, the use of molecular photofitting); development of training modules as educational and priming interventions not only for law enforcement officers but also for witnesses, jurors, attorneys, and judges; the passage of new legislation by Congress to establish a disparate impact analysis and prohibit racial profiling specifically; and the extension of the exclusionary rule to the Fourteenth Amendment to provide remedies where the unequal enforcement of the laws has been shown.

Expanded DNA Testing[181]

The United States already has a national DNA database called the Combined DNA Index System (CODIS).[182] The Federal Bureau of Investigation (FBI) established the database pursuant to the DNA Identification Act of 1994.[183] Since that time, a number of federal statutes have expanded the scope of the collection of DNA and the creation of DNA profiles, including the DNA Analysis Backlog Elimination Act of 2000 (which expanded the program to

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[181] There are very important economic considerations, inherent in this topic, that are outside the scope of this article, but are anticipated counterarguments to expanding DNA testing. There is a long backlog of DNA samples for the current caseload, so expansion arguments must adequately address the impacts on evidence backlogs. For example, at the end of 2011, there were more than 90,000 cases involving DNA wherein the sample was not analyzed and uploaded into CODIS within the thirty-day expectation. *See* MARK NELSON ET AL., MAKING SENSE OF DNA BACKLOGS, 2012 – MYTHS VS. REALTY 2 (2013), http://www.nij.gov/publications/pages/publication-detail.aspx?ncjnumber=243347. Moreover, current state crime labs are overworked, underfunded, under-supervised, and undercompensated. *See, e.g.*, Romando Dixson, *DNA Backlog Persists at NC Crime Lab, Stalls Cases*, CITIZEN TIMES (July 13, 2014), http://www.citizen-times.com/story/news/local/2014/07/13/dna-backlog-persists-nc-crime-lab-stalls-cases/12609469/.

[182] *Combined DNA Index System (CODIS)*, FBI, https://www.fbi.gov/services/laboratory/biometric-analysis/codis (last visited Feb. 9, 2017).

[183] Civil Rights Act of 1964, Pub. L. No. 88–352, 78 Stat. 252 (1964) (codified as amended in scattered sections of 2 U.S.C., 28 U.S.C., and 42 U.S.C.).

include individuals convicted of particular federal felonies),[184] the USA Patriot Act of 2001 (which expanded the program to include individuals convicted of any federal terrorism-related crime),[185] the Justice For All Act of 2004 (which expanded the program to include individuals convicted of any federal felony),[186] and the DNA Fingerprint Act of 2005 (which expanded the program to include individuals arrested for particular federal felonies).[187] All fifty states have similar programs for DNA profiles of convicted individuals, and more than half of the states have expanded programs to include arrestees.[188] As of September 2016, CODIS contained over 12,560,538 offender profiles and 2,495,030 arrestee profiles.[189]

CODIS profiles are limited in the genomic information analyzed. The current panel consists of genotypes for 13 loci, although an expansion to a 24-loci panel is under consideration.[190] The genotypes for these markers are not causally linked to phenotypes (i.e., they do not reveal information about an individual's appearance or health conditions),[191] a point reiterated by the DOJ final rule.[192] CODIS genotype frequencies—just like any part of the genome—vary by race, ethnicity, and ancestry.[193] The CODIS profiles could indirectly be used to infer race, ethnicity, and ancestry.[194] And, to the extent that phenotypes vary by race,

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[184] 42 U.S.C. § 14135a(a) (2006).

[185] 50 U.S.C. § 1861(a) (2001).

[186] 18 U.S.C.A. § 3600(a) (West, Westlaw through P.L. 108–405 approved 12/16/16).

[187] 18 U.S.C. § 3142(b) (2008).

[188] *See,* e.g., Jennifer K. Wagner & Sara H. Katsanis, *ENCODE, CODIS, and the Urgent Need to Focus on What is Scientifically and Legally Relevant to the DNA Fingerprinting Debate*, GENOMICS L. REP. (Sept. 21, 2012), http://www.genomicslawreport.com/index.php/2012/09/21/encode-codis-and-the-urgent-need-to-focus-on-what-is-scientifically-and-legally-relevant-to-the-dna-fingerprinting-debate/ ("Since [the passage of The DNA Fingerprint Act of 2005], more than half of the states have passed arrestee DNA Database laws.").

[189] *CODIS-NDIS Statistics: Measuring Success*, FED. BUREAU OF INVESTIGATION, http://www.fbi.gov/about-us/lab/biometric-analysis/codis/ndis-statistics (last visited Nov. 7, 2016).

[190] Jianye Ge et al., *Developing Criteria and Data to Determine Best Options for Expanding the Core CODIS Loci*, 3 INVESTIGATIVE GENETICS 1, 1, 5 (2012).

[191] Sara H. Katsanis & Jennifer K. Wagner, *Characterization of the Standard and Recommended CODIS Markers*, 58 J. FORENSIC SCI. S169, S169–71 (2013).

[192] DNA-Sample Collection and Biological Evidence Preservation in the Federal Jurisdiction, 73 Fed. Reg. 74,932 (Dec. 10, 2008) (to be codified at 28 C.F.R. pt. 28).

[193] Wagner, *supra* note 188.

[194] *Id.*

ethnicity, and ancestry, CODIS profiles could indirectly be used to infer such traits, albeit very crudely and by statistical correlation alone (not causal connections).[195] As Sara Katsanis and the author have indicated previously,

> [t]he bottom line is that knowing a person's unique 13- or 24-marker profile at the genomic sites used by CODIS does not, to the best of our current knowledge, allow reliable, valid inference of anything more than identity (aside from sex) without performing additional analyses and drawing additional inferences from those analyses (e.g. estimating ancestry from the CODIS genotypes and subsequently performing analyses to infer phenotypes from those ancestry estimates).[196]

Even if law enforcement wanted to use the CODIS system to predict appearances (such as features for which data are collectable from mug shot photographs—namely sex, pigmentation of skin, iris, and hair, and facial features), reliable molecular photofitting (i.e., predicting a person's physical appearance from a DNA sample either directly by using known causative loci or indirectly by using genomic ancestry information) is *not* yet technically feasible.[197] Even the most fervent researchers[198] acknowledge that accurate and precise molecular photofitting of individuals from a DNA sample is not likely to be available any time soon, as a variety of limitations[199] will continue to frustrate those efforts.[200] Limiting factors include, variable expressivity and incomplete penetrance; polygenic, multifactorial causation; gene-gene, gene-environment, and epigenetic effects; as well as trauma-related, cosmetic, and therapeutic alterations of appearance.[201] Thus, molecular photofitting remains limited to

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[195] *Id.*

[196] *Id.*

[197] TONY N. FRUDAKIS, MOLECULAR PHOTOFITTING: PREDICTING ANCESTRY AND PHENOTYPE USING DNA 646–47 (Jennifer Soucy & Kelly Weaver eds., 2008).

[198] *See, e.g.*, Manfred Kayser & Peter M. Schneider, *DNA-Based Prediction of Human Externally Visible Characteristics in Forensics: Motivations, Scientific Challenges, and Ethical Considerations*, 3 FORENSIC SCI. INT'L: GENETICS 154, 157 (2009) (discussing the accuracy limitation of DNA-based predictions in the present day).

[199] *See, e.g.*, Eleanor A. M. Graham, *DNA Reviews: Predicting Phenotype*, 4 FORENSIC SCI. MED. PATHOL. 196, 196–97 (2008) (discussing how the inheritance of genes does not follow a simple mode of inheritance).

[200] *Id.*

[201] *See* Caio Cesar Silva de Cerqueira et al., *Predicting Physical Features and Diseases by DNA Analysis: Current Advances and Future Challenges*, 7 J. FORENSIC RES. (Aug. 29, 2016), https://www.omicsonline.org/open-access/predicting-physical-features-and-diseases-by-dna-analysis-current-advancesand-

only a few phenotypes, namely, biogeographic ancestry,[202] hair color,[203] iris color,[204] sex,[205] and face shape.[206] Even in those circumstances, contextual information is essential to the interpretation of results. For example, while DNA tests analyzing the amelogenin gene may distinguish homologous genes located on the X and Y chromosomes, the presence of specific sex chromosomal combinations (e.g., XX for female or XY for male) is not indicative of an individual's sex or gender with the degree of certainty some might assume (e.g., many individuals have karyotypes other than XX or XY; a number of conditions can alter sexual development of persons whose sex would otherwise be predicted by the amelogenin genotype, such as congenital androgen insensitivity syndrome, an X-linked disorder, or α-5 reductase, an autosomal disorder involving chromosome 2; and sex reassignment surgeries are now routinely performed).[207]

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future-challenges-2157-7145-1000336.php?aid=79947 (discussing factors like polygenic traits, multifactorial traits, gene-gene factors, and environmental and developmental factors).

[202] *See, e.g.*, Mark D. Shriver et al., *Ethnic-Affiliation Estimation by Use of Population-Specific DNA Markers*, 60 AM. J. HUM. GENETICS 957, 957–64 (1997) (discussing the use of population-specific genetic markers to estimate the ethnic affiliation of the population); Charmaine D. Royal et al., *Inferring Genetic Ancestry: Opportunities, Challenges, and Implications*, 86 AM. J. HUM. GENETICS 661, 661 (2010) (discussing how biogeographic ancestry is used in genetics).

[203] *See, e.g.*, Wojciech Branicki et al., *Model-Based Prediction of Human Hair Color Using DNA Variants*, 129 HUM. GENETICS 443, 443 (2011) (discussing how hair color is predicted, based on DNA, with high accuracy).

[204] Susan Walsh et al., *IrisPlex: A Sensitive DNA Tool for Accurate Prediction of Blue and Brown Eye Colour in the Absence of Ancestry Information*, 5 FORENSIC SCI. INT'L: GENETICS 170, 170 (2011).

[205] Armando Mannucci et al., *Forensic Application of a Rapid and Quantitative DNA Sex Test by Amplification of the X-Y Homologous Gene Amelogenin*, 106 INT'L J. LEGAL MED. 190, 190–93 (1994).

[206] Peter Claes et al., *Modeling 3D Facial Shape from DNA*, 10 PLOS GENETICS 1, 1 (2014), http://journals.plos.org/plosgenetics/article/file?id=10.1371/journal.pgen.1004224&type=printable; Fan Liu et al., *A Genome-Wide Association Study Identifies Five Loci Influencing Facial Morphology in Europeans*, 8 PLOS GENETICS 1, 1 (2012), http://journals.plos.org/plosgenetics/article/file?id=10.1371/journal.pgen.1002932&type=printable; Stefan Boehringer et al., *Genetic Determination of Human Facial Morphology: Links Between Cleft-lips and Normal Variation*, 19 EUR. J. HUM. GENETICS (2011), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3198142/; Lavinia Paternoster et al., *Genome-Wide Association Study of Three-Dimensional Facial Morphology Identifies Variant in PAX3 Associated with Nasion Position*, 90 AM. J. HUM. GENETICS 478, 478 (2012), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3309180/.

[207] *See Androgen Insensitivity Syndrome*, GENETICS HOME REFERENCE (Nov. 1, 2016), https://ghr.nlm.nih.gov/condition/androgen-insensitivity-syndrome (discussing the characteristics of androgen insensitivity syndrome); *Genetic Disorders: Types and Kinds*, NOBULLYING.COM, https://nobullying.com/genetic-

Current technical capabilities are limited, and descriptions of molecular photofitting results or output as a "genetic police sketch,"[208] "DNA witness,"[209] or even DNA "portraits"[210] are unfortunate hyperbole and deserving of criticisms directed at the level of precision.[211] However, molecular photofitting might soon provide law enforcement with the functional equivalent of pixilated, faint, or distant photographs of the typical opacity of eyewitness descriptions. Morphed images (e.g., averaged faces of individuals with a specific range of genomic ancestry proportions) might be particularly helpful in cases with contradictory eyewitness descriptions and might help law enforcement officers--as detached information free from their own implicit biases--[212] appreciate the level of diversity and the range of variation in appearance that should inform the investigation.[213] Some scholars, when discussing the fairness and appropriateness of phenotyping, have expressed their perspectives using unrealistic dichotomies, i.e., externally visible versus hidden, sensitive versus non-

disorders/ (last modified Dec. 22, 2015) (discussing genetic disorders, specifically autosomal disorders and X-linked disorders).

[208] Gautam Naik, *To Sketch a Thief: Genes Draw Likeness of Suspects*, WALL STREET J., http://www.wsj.com/articles/SB123810863649052551 (last updated Mar. 27, 2009).

[209] Duana Fullwiley, *Can DNA "Witness" Race?: Forensic Uses of an Imperfect Ancestry Testing Technology*, GENEWATCH (2008), http://www.councilforresponsiblegenetics.org/GeneWatch/GeneWatchPage.aspx?pageId=59&archive=yes; Sheri Fink, *Reasonable Doubt and DNA in the Courtroom: Questions About the Forensic Infallibility of DNA Emerge even as Police Begin to Use it to Profile Suspects by Race*, DISCOVER (July 29, 2006), http://discovermagazine.com/2006/jul/reasonable-doubt/.

[210] Acacia Squires, *Litterbugs Beware: Turning Found DNA into Portraits*, NPR (May 12, 2013), http://www.npr.org/2013/05/12/183363361/litterbugs-beware-turning-found-dna-into-portraits.

[211] Pilar N. Ossorio, *About Face: Forensic Genetic Testing for Race and Visible Traits*, 34 J. L. MED. & ETHICS 277, 277–78 (2006); Amade M'Charek, *Silent Witness, Articulate Collective: DNA Evidence and the Inference of Visible Traits*, BIOETHICS (2008), https://www.ncbi.nlm.nih.gov/labs/articles/18959734/; Matthew Herper, *Artist Creates Portraits from People's DNA. Scientists say "That's Impossible"*, FORBES (May 31, 2013), http://www.forbes.com/sites/matthewherper/2013/05/31/turning-found-dna-into-portraits-what-an-imagination/.

[212] However, morphed images may not necessarily be free from all biases. Philosophy of science scholarship is extensive and relevant on this point, but outside the scope of this article.

[213] Dr. Charlie Frowd, *Facial Composites and Techniques to Improve Image Recognisability* [sic], *in* FORENSIC FACIAL IDENTIFICATION: THEORY AND PRACTICE OF IDENTIFICATION FROM EYEWITNESSES, COMPOSITES AND CCTV 17 (T. Valentine, & J. Davis eds., 2015), www.evofit.co.uk/wp-content/uploads/2015/05/Frowd-2015-composite-review.docx (following the preceding link should initiate a download for a word document whereby this document can be accessed).

sensitive, medically-relevant versus non-relevant, or physical versus psychological or behavioral phenotypes.[214] Given that phenotypic predictions are not evidence of guilt but merely of limited investigative utility until a positive DNA identification has been made,[215] the author sees no reason to avoid, categorically, any phenotype from possible consideration. The phenotypes of probative value will vary necessarily from case to case. For example, a predicted surname is of varying investigatory utility depending on the locality of the case and prevalence of the surname.[216]

Despite the limitations, we should be advocating for the development of these and other genetic or genomic techniques and their integration into investigations, particularly of "cold" cases involving loss of life or sexual assaults. First, genetic or genomic technologies can be used to keep cold cases active.[217] It is notable that there is no need to go beyond a CODIS profile and use molecular photofitting results or interpretations when filing a Jane or John Doe arrest warrant or indictment. A CODIS profile alone is sufficient to describe an individual with particularity, and the Jane or John Doe arrest warrant or indictment would toll the applicable statute of limitation and keep these cases eligible for prosecution when the perpetrator's name and whereabouts become known.[218] At that time, the suspect can be arrested and the CODIS profiles compared to verify the identification. Second, molecular photofitting technologies and investigatory action based thereon—even if the results include information regarding predicted ancestry or race—would be permissible under the 2014 DOJ GUIDANCE.[219] Moreover, use of the technique could minimize

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[214] Bert-Jaap Koops & Maurice Schellekens, *Forensic DNA Phenotyping: Regulatory Issues*, 9 COLUM. SCI. & TECH. L. REV. 158, at 14, 20, 32, 47, 50, 54, 61–62, 116 (2008) [hereinafter Koops & Schellekens]; Edward J. Imwinkelried & David H. Kaye, *DNA Typing: Emerging or Neglected Issues*, 76 WASH. L. REV. 413, 421–23, 429, 440, 474 (2001) [hereinafter Imwinkelried & Kaye]; Elkins, *supra* note 106, at 282–86, 299, 302.

[215] Koops & Schellekens, *supra* note 214, at 74; Imwinkelried & Kaye, *supra* note 214, at 472, 474; Elkins, *supra* note 106, at 280.

[216] Koops & Schellekens, *supra* note 214, at 11.

[217] Elkins, *supra* note 106, at 305.

[218] Ted Robert Hunt, *Charging John Doe: Tolling the Criminal Statute of Limitations in Missouri Based on the Accused's DNA Profile*, J. MO. B. 78, 79 (2010), http://www.mobar.org/uploadedFiles/Home/Publications/Journal/2010/03-04/Charging%20John%20Doe%20Tolling%20the%20Criminal%20Statute%20of%20Limitations%20in%20Missouri%20Based%20on%20the%20Accused's%20DNA%20Profile.pdf.

[219] 2014 DOJ GUIDANCE, *supra* note 14, at 4.

unnecessary police encounters, preserve resources, and be further removed from investigator biases and prejudices (so long as the way in which the analysis is performed is carefully designed). Third, it is noteworthy that molecular photofitting is useful to law enforcement as an investigatory tool but is not useful to prosecutors as inculpatory evidence. That is an inherent safeguard supportive of the technique's use. As most forensic scientists appreciate, the only significance of the traits modeled by molecular photofitting lies in their potential to assist in identifying and describing persons of interest.[220] The suite of traits alone predicted by modeling DNA indicates no nexus to unlawful activity.[221] If a phenotypic description leads detectives to persons of interest and enables them to uncover additional details supporting reasonable suspicion or probable cause, this information may be used to support an application for a court order (e.g., a non-testimonial identification order) or a search warrant to obtain a DNA sample from the suspect for identification purposes (i.e., DNA profiling using the standard CODIS loci known as a "DNA fingerprint").[222] Such DNA profiling should permit either a positive identification (probabilistically speaking) or exclusion of the suspect with a CODIS profile comparison. The CODIS profile supplants the molecular photofitting information during the arrest, trial, and post-conviction stages.

Molecular photofitting and phenotyping prediction methods from non-DNA evidence can serve to mitigate officer-initiated biases and prejudices. If accurate, this neutralized information can help eliminate innocent individuals from the investigation more quickly. Individuals who meet the predicted general descriptions are, at best, merely persons of interest, and officers have little to gain and much to lose (e.g., causing unnecessary stress, increasing levels of police distrust, etc.) by informing individuals that they meet some probabilistic description of the perpetrator.[223] By freeing the genome (i.e., breaking loose from the confines of amorphous notions of genetic privacy and misguided notions of genetic exceptionalism), we may create a more just investigatory

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[220] Koops & Schellekens, *supra* note 214, at 158, 160–61.

[221] Imwinkelried & Kaye, *supra* note 214, at 473–74.

[222] *See* 2014 DOJ GUIDANCE, *supra* note 14, at 5–6 (officers may act on specific information demonstrating that a suspect possesses a phenotypical characteristic).

[223] *See* Elkins, *supra* note 106, at 271 ("DNA analysis could serve as an antidote to racial profiling . . . could correct tendencies to pursue one group disproportionately.").

process that implements anti-discrimination principles, mitigates actual and perceived racial discrimination by law enforcement, and appreciates the uncertainties and limitations of genetic information. For example, opportunistic DNA testing (distinct from, but sometimes mistaken for "surreptitious DNA testing")[224] can be used by law enforcement to exculpate persons of interest quickly without the potential stigma, harassment (actual or perceived), or even the mere inconvenience associated with (a) knowledge of fitting a criminal profile of an investigation and (b) custodial stops and interrogations that otherwise may be necessary to elicit information differentiating persons of interests from suspects.[225]

Importantly, DNA cannot and will not solve all problems. For example, DNA testing will not be possible in all investigations or cases (e.g., some report that DNA testing is possible in less than 10% of all criminal cases).[226] Nevertheless, DNA is a useful tool for exonerating innocent individuals from investigations early—just one means of safeguarding individuals from unnecessary and lengthy interactions with law enforcement or embarrassing, stigmatizing, and even traumatizing scrutiny for crimes they did not commit.[227] In a National Institute of Justice study of approximately 10,000 cases where the FBI performed DNA testing, suspects were excluded once DNA testing was conducted during the criminal investigation in more than 25% of cases.[228] Moreover, post-conviction DNA testing whenever feasible should be required, at a minimum, in all cases for which the death penalty is sought to ensure that individuals are not wrongfully executed. According to the Innocence Project's count, out of the 337 post-conviction DNA exonerations in the 37 states across the nation,

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[224] *See* PRESIDENTIAL COMMISSION FOR THE STUDY OF BIOETHICAL ISSUES: PRIVACY AND PROGRESS IN WHOLE GENOME SEQUENCING 78 (2012) (discussing "genetic testing or whole genome sequencing without the consent of the donor."), http://bioethics.gov/sites/default/files/PrivacyProgress508.pdf.

[225] *See* Jennifer F. McLaughlin, *Just DNA: Expansion of Federal § 1983 Jurisdiction Under* Skinner v. Switzer *should be Limited to Actions Seeking DNA Evidence*, 23 GEO. MASON U. CIV. RTS. L.J. 201, 223–25 (2013) (discussing how DNA evidence can be used to exonerate people wrongfully convicted as well as identify the people actually responsible for crimes).

[226] *Unvalidated* [sic] *or Improper Forensic Science*, INNOCENCE PROJECT, http://www.innocenceproject.org/causes/unvalidated-or-improper-forensic-science/(last visited Nov. 8, 2016).

[227] *DNA Exonerations in the United States*, INNOCENCE PROJECT, http://www.innocenceproject.org/dna-exonerations-in-the-united-states/(last visited Nov. 8, 2016).

[228] *Id.*

242 (71.8%) of the exonerees were racial minorities, and the true perpetrator was identified in 149 of the exoneration cases.[229]

Law enforcement's goal is not only to catch perpetrators, but also to do so without unnecessarily and unconstitutionally infringing upon the rights of innocent individuals in the process.[230] Pragmatic policies are needed to articulate protocols for (a) appropriate data security during and after the molecular photofitting analysis (e.g., use of an off-line computer accessible only to authorized personnel); (b) what information is communicated from forensic scientists to detectives (e.g., how phenotypes are to be prioritized in any particular investigation to maximize probative value, minimize waste of investigational resources, and minimize opportunities for misuse of the information); (c) whether and to what extent such information should be kept confidential (i.e., not disclosed to the media or public) during the investigation; (d) under what circumstances opportunistic DNA testing (i.e., the comparison of CODIS profiles derived from persons of interest with the CODIS profile derived from the crime scene sample) should be used to avoid notifying the specific persons of interest; and (e) the automatic, compulsory, and complete destruction of any opportunistic DNA samples and resulting CODIS profiles immediately upon discovery that the profiles do not match that of the crime scene.[231] It is necessary to draft and implement standards for appropriate law enforcement use of molecular photofitting and phenotyping. The author has listed several matters that these standards should address, regardless of which entity (e.g., the American Bar Association, Attorney General, a National Institute of Forensic Sciences, the forensic science community, etc.) undertakes this important endeavor. In light of the recent decisions upholding DNA fingerprinting upon arrest, rapid policy development and implementation is essential to mitigate racial disparities in justice.

In short, the author advocates for expanded DNA testing. If the current CODIS system is maintained, expanded DNA testing

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[229] *Id.*

[230] *See* 2014 DOJ GUIDANCE, *supra* note 14, at 1–2 (the federal government is committed to keeping the nation safe while upholding equal justice under the law).

[231] *See* S. and Marper v. The United Kingdom, Eur. Ct. H.R. ECHR 1581 (2008) (it is noteworthy that, in S. and Marper, the European Court of Human Rights found that the indefinite retention of DNA profiles and samples from innocent people violates Article 8 of the European Convention of Human Rights).

should include the use of Jane or John Doe arrest warrants and indictments, molecular photofitting and opportunistic testing for investigations, and mandatory testing for death penalty cases. That said, a universal DNA database is undoubtedly the most preferable option when searching for a program that maximizes "the equal protection of the laws."[232] Such a database would eliminate the incentive for tools (like familial searching) that perpetuate the disparate impacts of our current system in which some individuals are more likely than others similarly situated to be (1) investigated and prosecuted for crimes they have committed, as well as (2) identified as victims or missing persons.[233] For example, David H. Kaye and Michael E. Smith correctly noted, more than a decade ago, that "a population-wide DNA database could serve as at least a partial, much-needed antidote for the racial distortions that plague the criminal justice system. DNA evidence does not care about race. A database profile either does or does not match a crime-scene sample."[234] Even in light of *Maryland v. King*, the idea remains a useful "thought-experiment" even if such a program remains pegged as neither economically nor politically feasible.[235] The economic and political costs of failing to ensure parity in coverage of forensic (and biomedical) databases far exceeds the alternative.[236] Moreover, that we

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[232] U.S. CONST. amend. XIV, § 1.

[233] *See* Sonia M. Suter, *All in the Family: Privacy and DNA Familial Searching*, 23 HARV. J.L. & TECH. 309, 351–52, 371 (2010) (discussing discriminatory familial searches where the police fail to distinguish between persons who have committed crimes and persons related to those who have committed crimes).

[234] David H. Kaye & Michael E. Smith, *DNA Identification Databases: Legality, Legitimacy, and the Case for Population-Wide Coverage*, 2003 WIS. L. REV. 413, 458 (2003).

[235] David H. Kaye, Maryland v. King*: Per se Unreasonableness, the Golden Rule, and the Future of DNA Databases*, 127 HARV. L. REV. F. 39, 47 (2013).

[236] There are ethical concerns to consider here, including the potential biases in DNA analysis by state crime laboratories where personnel might be rewarded for closing cases or aiding in convictions. Moreover, and professionally-speaking, the forensic genetics community is distinct from the biomedical or academic genetics community and keeps its methodologies and techniques closely-guarded. Policy-makers must also bring the research utilized into the light where experts can critically evaluate the validity and reliability, as well as the implications, of forensic genetic work. Finally, confrontation clause concerns about the lack of vertical integration in DNA processing are likely already trickling into the court system. *See generally* Mildred K. Cho & Pamela Sankar, *Forensic Genetics and Ethical, Legal and Social Implications Beyond the Clinic*, NCBI (Mar. 24, 2008), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2271138/ (discussing various kinds of ethical concerns inherent in genetic research and why people working with genetics should understand those ethical concerns).

already have population-wide screening at birth[237] indicates our increased capacity, and the improved speed of rapid DNA testing and falling costs of analysis and data storage contains factors bolstering this idea.[238]

Eyewitness, Juror, Attorney, and Judge Interventions

According to the Innocence Project, approximately seventy percent of the cases in which convictions have been overturned through DNA testing have involved eyewitness misidentification.[239] The Innocence Project has made a number of useful recommendations to mitigate this problem (including the blind administration of live and photo array lineups; careful selection of fillers for lineup compositions; confidence statements from the eyewitness; recording for documentation; priming instructions that include telling the eyewitness the perpetrator might not be included in the lineup, and that the investigation will continue regardless of the lineup results; and the use of sequential rather than simultaneous lineups).[240] While it may be difficult to operationalize, the development of priming modules to minimize implicit racial biases for use before a live or photo lineup might help reduce the bias introduced from witnesses.[241] Similarly,

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[237] Dr. Nancy S. Green et al., *Newborn Screening: Complexities in Universal Genetic Testing*, 96 AM. J. PUB. HEALTH 1955, 1955 (2006), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1751824/; Wylie Burke et al., *Genetic Screening*, 33 EPIDEMIOL. REV. 148, 149 (2011), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3166195/; Vani Kilakkathi, *Newborn Screening in America: Problems and Policies*, COUNCIL FOR RESPONSIBLE GENETICS, at 4, 5 (2012), http://www.councilforresponsiblegenetics.org/pageDocuments/WNMAKEPP1P.pdf. An extensive body of literature exists on this topic. Newborn bloodspots have been analyzed for nearly every baby born in the United States since the 1960s for metabolic, endocrine, and hematologic disorders. The programs are also state-administered. Susan Scutti, *The Government Owns Your DNA. What are They Doing with it?*, NEWSWEEK, (July 24, 2014), http://www.newsweek.com/2014/08/01/whos-keeping-your-data-safe-dna-banks-261136.html.

[238] *See* David A. Kirby, *The New Eugenics in Cinema: Genetic Determinism and Gene Therapy in "GATTACA"*, 27 SCI. FICTION STUD. 193, 193–94, 201 (2001), http://www.depauw.edu/site/sfs/essays/gattaca.htm (discussing, in a "GATTACA" context, that having a universal DNA database would likely get extensive pushback as another form of secretive and untrustworthy governmental surveillance and manipulation, while also bringing into question many ethical concerns).

[239] *Eyewitness Misidentification*, INNOCENCE PROJECT, http://www.innocenceproject.org/understand/Eyewitness-Misidentification.php (last visited Nov. 8, 2016).

[240] *Id.*

[241] Jeffrey Fagan & Mukul Bakhshi, *New Frameworks for Racial Equality in*

educational modules detailing racial disparities in the criminal justice system and priming modules to minimize implicit racial biases that the jurors might have, could be incorporated into the *voir dire* process for criminal trials (and implemented at any time prior to opening statements and again prior to deliberations) as a means to safeguard the right to a fair trial by neutralizing biases introduced to the system by the jurors themselves and preparing the jurors to be impartial when seeing and hearing the evidence in the case before them.[242] Moreover, implicit racial bias training should be incorporated into continuing legal education (CLEs) for all attorneys—particularly prosecutors who hold broad discretionary powers.

New Legislation

In light of stark racial disparities and known implicit racial biases, we must recognize that the Equal Protection Clause is important not only for safeguarding the rights of a defendant, an accused, or a convicted individual but also for the victims, their loved ones, and the American public at large. It is for this reason that both intentional discrimination (e.g., racial profiling) and unintentional discrimination (e.g., structural discrimination where no one person or entity can be pinpointed as the cause of the problem; implicit racial biases influencing cognitive functions of witnesses, officers, prosecutors, judges; and impairing fair trials) must be addressed. Biased enforcement, not just selective enforcement, is a violation of equal protection laws.[243] Given the jurisprudence reviewed above, it is unlikely that the Roberts Court would reinterpret the Fourteenth Amendment as requiring a burden-shifting approach for the evaluation of claims involving biased enforcement. However, "[i]f given the opportunity, the disparate impact doctrine could curtail unconscious discrimination in Equal Protection jurisprudence as well."[244]

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the Criminal Law, 39 COLUM. HUM. RTS. L. REV. 1, 15–16 (2007).

[242] *See generally* Nancy S. Marder, *Juror Bias, Voir Dire, and the Judge-Jury Relationship*, 90 CHI.-KENT L. REV. 927, 933–34, 936–38, 940 (2015) (discussing how certain environments cause the prospective jurors to not reveal their true bias, or how some are simply unaware that their bias persists, and providing grounds for a mechanism to improve the *voir dire* process).

[243] Randy Means & Zachary Miller, *14th Amendment and the Equal Protection Clause*, L. & ORD. (Oct. 2015), https://www.hendonpub.com/law_and_order/articles/2015/10/14th_amendment_and_the_equal_protection_clause.

[244] Sara R. Benson, *Reviving the Disparate Impact Doctrine to Combat Unconscious Discrimination: A Study of* Chin v. Runnels, 31 T. MARSHALL L. REV.

Accordingly, new civil rights legislation is required to further the goals of the Fourteenth Amendment. There has been limited support for new legislation, most notably for the End Racial Profiling Act that has been introduced in the last seven Congresses.[245] The legislation should identify racial profiling and implicit racial biases as problems and impose requirements to ban racial profiling, limit the use of race, and mandate implicit racial bias training and interventions for the criminal justice system. The legislation should be applicable to all law enforcement officers, not just federal law enforcement officers. The legislation should also provide for enforcement via the application of the disparate impact doctrine with a burden-shifting framework akin to that applied in Title VII employment discrimination cases.

The antidiscrimination principle demands no less [than the revival of the

> disparate impact doctrine,] and "[t]he quiet rationality of the courtroom makes it an appropriate place to confront race-based fears or hostility" . . . even those prejudices and biases that reside in our subconscious.[246]

New legislation should also provide for injunctive relief. Additionally, the legislation should specify the appointment of special prosecutors and specify that misconduct cases for biased enforcement (and excessive use of force) automatically be referred outside of the proximate jurisdiction so that the allegations can be investigated and adjudicated by neutral and detached parties. And finally, the legislation should require deliberate data collection and annual reporting so that the problem can be closely monitored and the effectiveness of countermeasures evaluated.[247]

New Judicial Interpretation

In the meantime, the Court has an opportunity and the obligation to take a closer look at the Fourteenth Amendment. A judicially-inferred remedy is available and has been available for

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43, 57 (2005).

[245] End Racial Profiling Act, S. 1038, 113th Cong. (2013); End Racial Profiling Act, S. 1670, 112th Cong. (2011); End Racial Profiling Act, H.R. 5748, 111th Cong. (2010); S. 2481, 110th Cong. (2007); S. 2138, 109th Cong. (2005); S. 2132, 108th Cong. (2004); S. 989, 107th Cong. (2001).

[246] Benson, *supra* note 244, at 62.

[247] The exploration of new evidentiary rules that could or should be established, such as the requirement that certain evidence be preserved or presented, or requirements for expungement, etc., would be prudent and relevant, but is reserved for development and discussion elsewhere.

more than 100 years. In *Boyd v. United States*,[248] the Court noted that "[i]t is the duty of courts to be watchful for the constitutional rights of the citizen, and against any stealthy encroachments thereon."[249] In 1914 the Court concluded in *Weeks v. United States*[250] that

> [i]f letters and private documents can thus be seized and held and used in evidence against a citizen accused of an offense, the protection of the 4th Amendment, declaring his right to be secure against such searches and seizures, is of no value, and, so far as those thus placed are concerned, might as well be stricken from the Constitution. The efforts of the courts and their officials to bring the guilty to punishment, praiseworthy as they are, are not to be aided by the sacrifice of those great principles established [in] years of endeavor and suffering which have resulted in their embodiment in the fundamental law of the land.[251]

The Court elaborated that "[t]o sanction such proceedings would be to affirm by judicial decision a manifest neglect, if not an open defiance, of the prohibitions of the Constitution, intended for the protection of the people against such unauthorized action."[252]

In *Olmstead v. United States*,[253] the Court clarified that "the Fourth Amendment, although not referring to or limiting the use of evidence in court, really forbade its introduction, if obtained by government officers through a violation of the amendment."[254] More than 50 years ago, the Court held this rule extends not only to federal courts, but also to state courts, noting the exclusionary rule is "a clear, specific, and constitutionally required—even if judicially implied—deterrent safeguard without insistence upon which the Fourth Amendment would have been reduced to 'a form of words.'"[255]

To allow the inclusion of evidence obtained through violation of the amendment would be "to grant the right but in reality to [withhold] its privilege and enjoyment."[256] In *Mapp v. Ohio*,[257] the Court considered, not only the Fourth Amendment, but also the

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[248] 116 U.S. 616 (1886).
[249] *Id.* at 635.
[250] 232 U.S. 383 (1914).
[251] *Id.* at 393.
[252] *Id.* at 394.
[253] 277 U.S. 438 (1928).
[254] *Id.* at 462.
[255] Mapp v. Ohio, 367 U.S. 643, 648 (1961) (quoting Silverthorne Lumber Co. v. United States, 251 U.S. 385, 392 (1920)).
[256] *Mapp*, 367 U.S. at 656.
[257] 367 U.S. 643 (1961).

Fifth Amendment with regard to the admissibility of coerced confessions.[258] The court explained "the purpose of the exclusionary rule 'is to deter—to compel respect for the constitutional guaranty in the only effectively available way—by removing the incentive to disregard it.'"[259] As Justice Douglas observed, "'self-scrutiny is a lofty ideal,'" and the alternatives to the exclusionary rule (including "disciplinary action within the hierarchy of the police system") would be inadequate to safeguard constitutional rights.[260] Quite simply, "[t]he criminal goes free, if he must, but it is the law that sets him free."[261]

While the exclusionary rule is not uniformly praised, there have been scholars advocating for its application to address racial discrimination and detailing how straightforward it would be for the Court to extend the judicial implication to the Equal Protection Clause.[262] The Court already indicated that "the exclusionary rule is an essential part of both the Fourth and Fourteenth Amendments" and that it "makes very good sense."[263] It maintains judicial integrity, ensures respect for the Constitution, and is a pragmatic solution while the American people await proper legislation specifically on racial profiling and the biased enforcement of laws.[264] Moreover, the exclusionary rule is aimed

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[258] *Id.* at 656–57.

[259] *Id.* at 656 (quoting Elkins v. United States, 364 U.S. 206, 217 (1960)).

[260] *Id.* at 670.

[261] *Id.* at 659.

[262] *See, e.g.*, Brooks Holland, *Safeguarding Equal Protection Rights: The Search for an Exclusionary Rule Under the Equal Protection Clause*, 37 AM. CRIM. L. REV. 1107, 1110 (2000) (arguing that "the scope of an equal protection exclusionary rule should . . . encompass any situation in which law enforcement exploits a citizen's race to obtain evidence."); Holland, *supra* note 101, at 57 (discussing how racial profiling, as an equal protection violation, "fits neatly" into the Supreme Court's current justifications for the exclusionary rule).

[263] *Mapp*, 367 U.S. at 657.

[264] Additional research would be helpful here, particularly to analyze the distinct preferences and approaches employed by current Supreme Court justices. For example, as Joshua Matz and Laurence Tribe discuss in UNCERTAIN JUSTICE, Justice Roberts tends to exercise restraint and minimalism; Justice Scalia was a firm proponent of original intent and plain meaning; Justice Thomas espouses originalism, but is willing to set aside decades of precedent to apply a novel approach; Justice Breyer is dedicated to empirical research, a balancing of all factors to arrive at pragmatic, practical compromises to strengthen the living Constitution; Justice Sotomayor is focused on both common sense and the logic of law; Justice Kennedy views the Constitution in a largely libertarian way, to safeguard liberty, dignity, and integrity; Justice Ginsburg has focused much on the role of the courts in relation to the other branches of government and has strong views on substantive equality; Justice Alito is deferential to tradition and critical of strict originalism; and Justice Kagan's approach is still largely a

not merely as punishment to the individual officer for misconduct but, importantly, "'at affecting the wider audience of all law enforcement officials and society at large.'"[265] We must get beyond accusations that defendants are merely "playing the 'race card'" and "incentivize and normalize" lawyers' open engagement with the subject of race."[266] The only way to ensure that attorneys will confront the issue of racial biases and racial profiling in the courtroom in a meaningful, productive, and forthright manner is to put the exclusionary rule on the table as a remedy.[267]

VII. CONCLUSION

We will not be liberated from our collective burdens of slavery and White privilege until we acknowledge the influence it has on the structure of our present criminal justice system and the implicit biases we all carry within us. Each of us is entitled to enjoy "the equal protection of the laws,"[268] but, in order to do so, we each have a responsibility to engage and contribute to meaningful criminal justice system reforms that bring integrity and respect to our rule of law. It is the proper role of the courts, the legislature, and the people to each take measures to eliminate all forms of racial discrimination, intentional or otherwise.[269] Genetics might help (as other scholars have suggested),[270] but only if we nurture it to do so.

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mystery, though she brings "real world" pragmatism to the bench. A review of their positions would help elucidate willingness to extend the exclusionary rule to biased enforcement and Equal Protection claims. JOSHUA MATZ & LAURENCE TRIBE, UNCERTAIN JUSTICE 8–14 (2014).

[265] *See* Holland, *supra* note 101, at 49 (quoting United States v. Peltier, 422 U.S. 531, 556–57 (1975).

[266] Holland, *supra* note 101, at 40–41.

[267] *See id.* at 30 ("Constitutional criminal procedure doctrine should instead empower and oblige defense lawyers, prosecutors, and judges to address responsibly whether race has tainted a criminal investigation in a constitutionally intolerable manner. Only a doctrinal remedy like the exclusionary rule can ensure lawyers will confront the issue.").

[268] U.S. CONST. amend. XIV, § 1.

[269] Justice Ginsburg remarked in a voting rights act case, "[t]hrowing out preclearance when it has worked and is continuing to work to stop discriminatory changes is like throwing away your umbrella in a rainstorm because you are not getting wet." Shelby County v. Holder, 133 S. Ct. 2612, 2650 (2013).

[270] *See generally* ALONDRA NELSON, THE SOCIAL LIFE OF DNA: RACE, REPARATIONS, AND RECONCILIATION AFTER THE GENOME 24–25, 40–41 (2016) (discussing how DNA can be used to address and reconcile past instances of racial discrimination that have otherwise gone unresolved).