

ESSAY

GENETIC RACE? DNA ANCESTRY TESTS, RACIAL IDENTITY, AND THE LAW*

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Can genetic tests determine race? Americans are fascinated with DNA ancestry testing services like 23andMe and AncestryDNA. Indeed, in recent years, some people have changed their racial identity based upon DNA ancestry tests and have sought to use test results in lawsuits and for other strategic purposes. Courts may be similarly tempted to use genetic ancestry in determining race. In this Essay, we examine the ways in which DNA ancestry tests may affect contemporary understandings of racial identity. We argue that these tests are poor proxies for race because they fail to reflect the social, cultural, relational, and experiential norms that shape identity. We consider three separate legal contexts in which these issues arise: (1) employment discrimination, (2) race-conscious initiatives, and (3) immigration. Based on this analysis, we strongly caution against defining race in predominantly genetic terms.

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INTRODUCTION

Advertisements for DNA ancestry tests are ubiquitous. Any U.S. consumer with a television has undoubtedly seen a commercial like the one featuring “Kyle.” In his AncestryDNA testimonial, Kyle states:

Growing up, we were German. We danced in a German dance group. I wore lederhosen. When I first got on Ancestry, I was really surprised that I wasn’t finding all of these Germans in my tree. I decided to have my DNA tested through AncestryDNA. The big surprise was, we are not German at all. Fifty-two percent of my DNA comes from Scotland and Ireland. So, I traded in my lederhosen for a kilt.¹

1. Ancestry, Kyle | Ancestry Stories | Ancestry, YouTube (June 13, 2016), <https://youtu.be/84LnTrQ2us8> (on file with the *Columbia Law Review*). Kyle’s “discovery”

There are many people like Kyle. Almost thirty million individuals worldwide have taken DNA ancestry tests,² and analysts predict that by 2021 this number could exceed 100 million.³ This growing popularity shows that human beings are very interested in our genetic makeups and in our genealogies. We are seeking a richer understanding of ourselves and of our identities, and perhaps a stronger sense of connectedness to our ancestors.

While some observers view DNA ancestry tests as purely “recreational,”⁴ these tests can have a powerful effect on both the individuals who take them and on society as a whole. For some individuals, test results may affirm a sense of personal identity or open up new avenues for racial and ethnic exploration.⁵ DNA ancestry testing is largely a positive experience for this group. For others, however, the tests may create an inner sense of conflict if the results deviate from how the individual views herself or how others perceive her identity. Whether positively or negatively received, the results of these tests could unfortunately reinforce the belief that race is biological.

In particular, challenges arise when one considers that DNA ancestry tests are touted as revealing a person’s “real” or “true” racial or ethnic identity. This conflation of race and genetics was apparent in the back-and-

that his genetic ancestry did not align with his lived ethnic identity has been repeated in numerous other testimonials. See, e.g., Ancestry, AncestryDNA TV Commercial, ‘Katherine and Eric’, iSpot.tv (2015), <https://www.ispot.tv/ad/AZbh/ancestrydna-katherine-and-eric> (on file with the *Columbia Law Review*); Ancestry, AncestryDNA TV Commercial, Testimonial: ‘Kim’, iSpot.tv (2015), <https://www.ispot.tv/ad/wKqV/ancestrydna-kim> (on file with the *Columbia Law Review*); Ancestry, AncestryDNA TV Commercial, ‘Testimonial: Livie’, iSpot.tv (2016), <https://www.ispot.tv/ad/wDMp/ancestrydna-testimonial-livie> (on file with the *Columbia Law Review*).

2. In a blog post, the president and CEO of Ancestry.com writes that “[a]bout 30 million people worldwide have already started a DNA journey, including over 16 million with Ancestry.” Margo Georgiadis, *Our Path Forward*, Ancestry (Feb. 5, 2020), <https://blogs.ancestry.com/ancestry/2020/02/05/our-path-forward> [<https://perma.cc/65PN-ZP9W>]; see also Antonio Regalado, *More than 26 Million People Have Taken an At-Home Ancestry Test*, MIT Tech. Rev. (Feb. 11, 2019), <https://www.technologyreview.com/s/612880/more-than-26-million-people-have-taken-an-at-home-ancestry-test> (on file with the *Columbia Law Review*).

3. See Regalado, *supra* note 2.

4. Deborah A. Bolnick, Duana Fullwiley, Troy Duster, Richard S. Cooper, Joan H. Fujimura, Jonathan Kahn, Jay S. Kaufman, Jonathan Marks, Ann Morning, Alondra Nelson, Pilar Ossorio, Jenny Reardon, Susan M. Reverby & Kimberly TallBear, *The Science and Business of Genetic Ancestry Testing*, 318 *Science* 399, 399 (2007); see also Alondra Nelson, *The Social Life of DNA: Race, Reparations, and Reconciliation After the Genome* 27 (2016).

5. See, e.g., Ancestry, *Blana & Identity | DNA Discussion Project | Ancestry*, YouTube (Nov. 2, 2017), <https://youtu.be/bYAKjOgbPuU> (on file with *Columbia Law Review*) (discussing the importance of receiving confirmation of her identity through DNA testing). Following a DNA ancestry test, “[t]est-takers may reshape their personal identities, and they may suffer emotional distress if the test results are unexpected or undesired.” Bolnick et al., *supra* note 4, at 399; see also Wendy D. Roth & Biorn Ivermark, *Genetic Options: The Impact of Genetic Ancestry Testing on Consumers’ Racial and Ethnic Identities*, 124 *Am. J. Soc.* 150, 165 (2018).

forth between President Donald Trump and Senator Elizabeth Warren over Warren's claimed Native American ancestry.⁶ In a July 2018 campaign rally, Trump threatened to expose Warren's alleged racial fraud by demanding that she take a DNA test.⁷ Trump's argument, at least initially, was that the DNA ancestry test would reveal who Warren "really is."⁸

Similarly, Kyle's testimonial reduces race or ethnicity to his genetic code. Kyle said that he grew up German. His family danced in a German dance group. He wore lederhosen. His family likely ate German-inspired food. Yet, Kyle seems to have largely abandoned his German cultural heritage for a new ethnicity based solely on biology—that is, based on his DNA ancestry test results.

While Kyle's case seems to involve only a question of personal identity and Trump's challenge to Warren was largely political gamesmanship, DNA ancestry tests raise other social and legal concerns. Consider the following: For most of his life, Ralph Taylor identified as white. In 2010, however, Taylor began identifying as Black⁹ after a DNA ancestry test

6. For an overview of the exchanges between Trump and Warren and how they reflect reductionist, biological views of race, see Masha Gessen, *Elizabeth Warren Falls for Trump's Trap—And Promotes Insidious Ideas About Race and DNA*, *New Yorker* (Oct. 16, 2018), <https://www.newyorker.com/news/our-columnists/elizabeth-warren-falls-for-trumps-trap-and-promotes-insidious-ideas-about-race-and-dna> (on file with the *Columbia Law Review*).

7. In the campaign rally, Trump stated that in a future presidential debate:
We will very gently take that kit, and we will slowly toss it, hoping it doesn't hit her and injure her arm, even though it only weighs probably 2 ounces. . . . [a]nd we will say, "I will give you a million dollars to your favorite charity, paid for by Trump, if you take the test and it shows you're an Indian."

Tucker Higgins, *Trump Said He Would Give \$1 Million to Charity If Elizabeth Warren Took a DNA Test. Now She Wants Him to Pay Up*, *CNBC* (Oct. 15, 2018), <https://www.cnn.com/2018/10/15/elizabeth-warren-dna-test-she-urges-trump-to-fulfill-1-million-charity-pledge.html> [<https://perma.cc/LH52-58AQ>] (internal quotation marks omitted); Washington Free Beacon, *Trump: I Would Give \$1 Million to Warren If She Takes DNA Test to Prove Native American Heritage*, YouTube, <https://youtu.be/CgMF7ngs5Ac> (on file with the *Columbia Law Review*). Trump later denied making the promise. Amy B. Wang & Deanna Paul, *Trump Promised \$1 Million to Charity If Warren Proved Her Native American DNA. Now He's Waffling.*, *Wash. Post* (Oct. 25, 2018), <https://www.washingtonpost.com/politics/2018/10/15/trump-dared-elizabeth-warren-take-dna-test-prove-her-native-american-ancestry-now-what> (on file with the *Columbia Law Review*).

8. In 2018, Warren took the test and asserted that the results confirmed her Native American ancestry. Higgins, *supra* note 7.

9. We use the term Black throughout this Essay. We recognize that this terminology does not capture the myriad ways in which individuals racialized as Black today may have identified and been identified by others historically. While the analysis herein uses a Black/white frame in examining the uses and effects of genetic race, we do not mean to suggest that race in the United States is limited to Black and white experiences. We recognize, however, that anti-Blackness has played a critical role in structuring racial hierarchy in the United States to the detriment—as this analysis shows—not only of Black Americans but also of other groups racialized as nonwhite. See Devon W. Carbado, *Race to the Bottom*, 49 *UCLA L. Rev.* 1283, 1307–09 (2002) (offering examples of "ways in which all people of color, and not just Blacks, have been racially subject to Black/White-structured

indicated that he was ninety percent Caucasian, six percent indigenous American, and four percent sub-Saharan African.¹⁰ Based on these results, Taylor—who owns an insurance company—sought government certification as a minority-owned business to augment his chances of securing government contracts.¹¹ When the government refused the requested certification, Taylor sued alleging race discrimination.¹²

Consider also Cleon Brown, a police officer in Hastings, Michigan. Like Taylor, Brown identified as white for most of his life.¹³ When a DNA ancestry test indicated that eighteen percent of his DNA traced to sub-Saharan Africa, Brown shared this information with his colleagues.¹⁴ Brown alleged that his fellow officers subsequently subjected him to a

legal and political regimes”). We hope that future investigations of genetic race will build upon this insight while simultaneously exploring the particularized ways in which racial groups are dissimilarly situated.

We capitalize the “b” in “Black” and “Blackness” for the same reasons that Kimberlé Crenshaw articulates in her work. See Kimberlé Williams Crenshaw, *Race, Reform, and Retrenchment: Transformation and Legitimation in Antidiscrimination Law*, 101 *Harv. L. Rev.* 1331, 1332 n.2 (1988) [hereinafter Crenshaw, *Retrenchment*] (“When using ‘Black,’ I shall use an upper-case ‘B’ to reflect my view that Blacks, like Asians, Latinos, and other ‘minorities,’ constitute a specific cultural group and, as such, require denotation as a proper noun.” (citing Catharine A. MacKinnon, *Feminism, Marxism, Method, and the State: An Agenda for Theory*, 7 *Signs* 515, 516 (1982))); see also Kimberlé Crenshaw, *Mapping the Margins: Intersectionality, Identity Politics, and Violence Against Women of Color*, 43 *Stan. L. Rev.* 1241, 1244 n.6 (1991) (“By the same token, I do not capitalize ‘white,’ which is not a proper noun, since whites do not constitute a specific cultural group.”). The use of capitalized terms to refer to Black people also has historical origins. See Crenshaw, *Retrenchment*, *supra*, at 1332 n.2 (“[T]he ‘N’ in Negro was always capitalized until, in defense of slavery, the use of the lower case ‘n’ became the custom in ‘recognition’ of Blacks’ status as property . . . and . . . the capitalization of other ethnic and national origin designations made the failure to capitalize ‘Negro’ an insult.” (citing W.E.B. Du Bois, *That Capital “N”* (1916), reprinted in 2 *The Seventh Son: The Thoughts and Writings of W.E.B. Du Bois* 12, 12–13 (Julius Lester ed., 1971))).

10. *Orion Ins. Grp. v. Wash. State Office of Minority & Women’s Bus. Enters.*, No. 16-5582 RJB, 2017 WL 3387344, at *2 (W.D. Wash. Aug. 7, 2017).

11. *Id.*

12. *Id.* at *4. The Ninth Circuit Court of Appeals affirmed the district court’s dismissal of Taylor’s lawsuit. *Orion Ins. Grp. v. Wash.’s Office of Minority & Women’s Bus. Enters.*, 754 F. App’x 556, 558–59 (9th Cir. 2018), cert. denied, 139 S. Ct. 2755 (2019) (“OMWBE did not act in an arbitrary and capricious manner when it determined it had a ‘well founded reason’ to question Taylor’s membership claims and, after requesting additional documentation from Taylor, determined that Taylor did not qualify as a ‘socially and economically disadvantaged individual.’”).

13. See Plaintiff’s Complaint & Jury Demand at 5, *Brown v. City of Hastings*, No. 1:17CV00331 (W.D. Mich. Apr. 11, 2017); see also John Eligon, *A Sergeant Who Learned He’s Part Black Says He Faced Racist Taunts at Work*, *N.Y. Times* (May 12, 2017), <https://www.nytimes.com/2017/05/12/us/cleon-brown-black-lawsuit.html> (on file with the *Columbia Law Review*). We examine the Cleon Brown case at greater length, *infra* section IV.A.2.

14. Plaintiff’s Complaint & Jury Demand, *supra* note 13, at 5.

racially hostile environment.¹⁵ Brown made several allegations. The police chief called him “Kunta,” after the main character, an enslaved African, in Alex Haley’s 1976 novel *Roots*.¹⁶ Colleagues whispered “Black Lives Matter” when Brown passed them in the department’s corridors.¹⁷ Someone put a Black Santa with eighteen percent written on it in Brown’s office Christmas stocking.¹⁸ Hastings’s mayor, upon learning of Brown’s DNA ancestry test results, told Brown a racist joke repeatedly using the word “Negroid.”¹⁹ Brown sued the City of Hastings for race discrimination under federal and state laws.²⁰

In the foregoing examples, DNA ancestry test results contributed to a change in identity. We call this construction of identity, based largely on DNA ancestry test results, “genetic ethnicity” or “genetic race.” While much of the analysis herein is readily applicable to ethnicity, this Essay focuses primarily on genetic race.

The above examples also illustrate some of the complex questions raised by genetic race and demonstrate the potential for genetic racism. First, what is race? And what happens when a person’s genetic ancestry conflicts with their previously self-identified race or the way in which others view their racial identity? For example, before receiving their ancestry test results, Ralph Taylor and Cleon Brown self-identified as white. Moreover, based upon their physical appearances, many—if not most—Americans would have classified Brown and Taylor as white. Yet, in their complaints, both men claimed to be Black or African American because their DNA ancestry tests revealed some percentage of sub-Saharan African ancestry. Are Taylor and Brown Black? Should courts allow their discrimination lawsuits to proceed?

Second, how should genetic notions of race affect assessments of racial composition and diversity in organizations? Should employers, colleges, and demographers rely on DNA ancestry test results when measuring diversity? Should Ralph Taylor, and others like him, now qualify for race-conscious affirmative action based on their ancestry test results?

This Essay explores the ways in which DNA ancestry tests both reflect and shape understandings of race in the United States and how these tests may complicate various social policies and legal doctrines. We acknowledge that people may incorporate their DNA ancestry test results into their own racial and ethnic identities and that these tests may shape

15. *Id.* at 10 (“Defendants, and their supporters in the department, have created an openly hostile, discriminatory, stressful working environment for Plaintiff.”).

16. *Id.* at 5.

17. *Id.*

18. *Id.* at 6.

19. *Id.*

20. *Id.* at 11.

individual conceptions of identity.²¹ We caution, however, against conflating genetics with lived identities and sociopolitical categories, and ultimately reject the concept of genetic race for legal or other policy purposes.

The analysis proceeds as follows. Part I traces the development of the DNA ancestry testing industry, explains how ancestry tests work, and considers their inherent limitations as proxies for racial and ethnic identity. Part I also explores the various ways in which people respond to test results and explains how some responses reinforce biological understandings of race. Part II analyzes the historical development of biological race and explains how this concept has been used in the United States to create, justify, and sustain racial hierarchy. This Part also explains how biological race, and its recent equivalent—genetic race—conflict with modern understandings of race as a social construction. Part III shows how genetic race may lead to accusations of racial fraud or cultural appropriation. It also examines how the rule of hypodescent—also known as the “one-drop rule”—creates a racial asymmetry with regard to who may claim a new identity based upon DNA ancestry test results. Part IV considers three areas in which litigants and other actors may be tempted to rely on genetic race: (1) employment discrimination, (2) race-conscious initiatives, and (3) immigration. We conclude that relying on genetic race is problematic, given the shortcomings of DNA ancestry tests and the social repercussions of treating the results of these tests as proxies for racial and ethnic identity.

I. DNA ANCESTRY TESTS AND THEIR IMPACT ON IDENTITY

Genetic ancestry and race are not the same. To fully appreciate why, one must first understand the science behind DNA ancestry tests. Although our focus is on these tests and the construction of race, this project is part of a larger—and necessary—interrogation of the interplay between technological innovation and personal information.²² Science

21. Some scholars have argued that individuals have a dignity or liberty interest in being able to freely choose or elect their race. See, e.g., Camille Gear Rich, *Elective Race: Recognizing Race Discrimination in the Era of Racial Self-Identification*, 102 *Geo. L.J.* 1501, 1506–07 (2014) (arguing for a right to self-definition). While these concerns are not insignificant, for purposes of this analysis, we align ourselves with scholars, like Professor Tanya Katerí Hernández, who adopt a more sociopolitical understanding of race and who tend to focus less on recognition of personal individual identity and more on group-based material inequalities. See Tanya Katerí Hernández, *Multiracials and Civil Rights: Mixed-Race Stories of Discrimination* 111–26 (2018) [hereinafter Hernández, *Multiracials and Civil Rights*] (adopting a “socio-political . . . concept of race” that “jettisons the emphasis on personal identity in favor of a focus on the societal and political factors that structure opportunity by privileging and penalizing particular phenotypes and familial connections viewed as raced across groups”).

22. See generally Kerry Abrams & Brandon L. Garrett, *DNA and Distrust*, 91 *Notre Dame L. Rev.* 757 (2015) (arguing for more careful legal scrutiny of genetic evidence); Ifeoma Ajunwa, *Genetic Testing Meets Big Data: Tort and Contract Law Issues*, 75 *Ohio*

appeals to many people because it is presumed to be neutral and governed by objective techniques and verifiable facts. Thus, scientific analyses of biological information are often tremendously persuasive. Yet science is constantly evolving and methodological constraints exist. Moreover, because scientific inquiry is subject to sociopolitical forces, science can be manipulated and misunderstood. It is therefore critical to point out the limitations of science in this and other areas. This Part begins by examining the evolution of the DNA ancestry testing industry and the marketing strategies that companies use to promote their products. It then turns to the science underlying genetic ancestry, including its limitations. The Part ends by considering the potential impact of ancestry tests on racial or ethnic identity.

A. *The Origins and Marketing of DNA Ancestry Tests*

DNA ancestry tests are a form of direct-to-consumer genetic test. Customers purchase a testing kit, collect a sample (usually in the form of a vial of spit or a cheek swab), and mail that sample away for analysis.²³ While the consumer genetics market has grown exponentially,²⁴ the DNA ancestry testing industry is relatively new, with a handful of companies dominating the market. AncestryDNA—a subsidiary of Ancestry.com—is by far the biggest player.²⁵ 23andMe and FamilyTreeDNA follow AncestryDNA in market share and popularity.²⁶

Industry giant AncestryDNA began selling its DNA ancestry tests in 2012.²⁷ Ancestry.com had already been operating as a genealogy company helping customers to create family trees, locate relatives, and search archives.²⁸ AncestryDNA began as an effort to help users fill in the missing branches of their family trees.²⁹

State L.J. 1225 (2014) (examining risks associated with the negligent disclosure of genetic information); Margaret Hu, *Crimmigration-Counterterrorism*, 2017 Wis. L. Rev. 955 (examining the potential discriminatory effects of biometric ID cyber surveillance technologies in immigration law); Osagie K. Obasogie, *The Return of Biological Race? Regulating Innovations in Race and Genetics Through Administrative Agency Race Impact Assessments*, 22 S. Cal. Interdisc. L.J. 1, 6 (2012) (proposing racial impact assessments to help regulators determine “how to balance the risks and benefits of new technologies that have the potential to give undue legitimacy to biological race”).

23. Barbara Mantel, *Consumer Genetic Testing*, CQ Researcher (June 14, 2019), <http://library.cqpress.com/cqresearcher/cqresrre2019061400> (on file with the *Columbia Law Review*).

24. *Id.*

25. *See id.*

26. *See* Regalado, *supra* note 2.

27. *Announcing the New AncestryDNA!*, Ancestry (May 3, 2012), <https://blogs.ancestry.com/ancestry/2012/05/03/announcing-the-new-ancestrydna> [<https://perma.cc/77SE-E399>].

28. *Our Story*, Ancestry, <https://www.ancestry.com/corporate/about-ancestry/our-story> [<https://perma.cc/KN4X-4MKR>] (last visited Sept. 17, 2020).

29. *Id.*

23andMe had a slightly different start. It began in 2008 as a small Silicon Valley start-up, co-founded by entrepreneur Anne Wojcicki, the ex-spouse of Sergey Brin of Google fame.³⁰ In fact, Google was among 23andMe's major initial funders.³¹ At its founding, the company offered several kinds of services that included genetic testing for ancestry, certain traits, and medical conditions.³² The FDA temporarily shut down 23andMe's health-related testing in 2013.³³ However, in 2015, the company again began offering customers health-related tests, this time with the FDA's approval.³⁴ In addition to offering direct-to-consumer genetic tests for carrier status and disease risk,³⁵ 23andMe is the only DNA ancestry company to gain the FDA's authorization to offer direct-to-consumer reports on how well users metabolize certain pharmaceuticals.³⁶

FamilyTreeDNA, although less well known, was actually the first company to offer commercial DNA ancestry tests.³⁷ It began as an effort to use genetic technology to confirm genealogical relationships between possible relatives.³⁸ A few years later, FamilyTreeDNA partnered with the National Geographic Society to administer the tests in a worldwide genetic survey called the Genographic Project.³⁹ Company executives then expanded FamilyTreeDNA's testing services to include clinical genetic testing and exome sequencing under the umbrella of its parent company GenebyGene.⁴⁰

30. Sandra Soo-Jin Lee, *American DNA: The Politics of Potentiality in a Genomic Age*, 54 *Current Anthropology* (Supplement 7) S77, S79 (2013).

31. *Id.*

32. *Id.* at S77.

33. The FDA sent a warning letter ordering the company to stop selling health-related, direct-to-consumer genetic tests, which the agency considered to be medical devices within its regulatory purview. 23andMe had not obtained the necessary approval for marketing those tests. Matthew Herper, *23andMe Stops Offering Genetic Tests Related to Health*, *Forbes* (Dec. 5, 2013), <https://www.forbes.com/sites/matthewherper/2013/12/05/23andme-stops-offering-genetic-tests-related-to-health/#373f6a454ef7> [<https://perma.cc/6FGE-2HGU>].

34. Andrew Pollack, *23andMe Will Resume Giving Users Health Data*, *N.Y. Times* (Oct. 21, 2015), <https://www.nytimes.com/2015/10/21/business/23andme-will-resume-giving-users-health-data.html> (on file with the *Columbia Law Review*).

35. *Our Health + Ancestry DNA Service*, 23andMe, <https://www.23andme.com/dna-health-ancestry> [<https://perma.cc/2P7F-JLWE>] (last visited Sept. 17, 2020).

36. *23andMe Granted the First and Only FDA Authorization for Direct-to-Consumer Pharmacogenetic Reports*, 23andMe (Oct. 31, 2018), <https://mediacenter.23andme.com/press-releases/23andme-granted-the-first-and-only-fda-authorization-for-direct-to-consumer-pharmacogenetic-reports> [<https://perma.cc/B8K9-NUW6>] (last updated Nov. 1, 2018).

37. Brianne E. Kirkpatrick & Misha D. Rashkin, *Ancestry Testing and the Practice of Genetic Counseling*, 26 *J. Genetic Counseling* 6, 7 (2017); see also Andelka M. Phillips, *Only a Click Away—DTC Genetics of Ancestry, Health, Love . . . and More: A View of the Business and Regulatory Landscape*, 8 *Applied & Translational Genomics* 16, 18 (2016).

38. Kirkpatrick & Rashkin, *supra* note 37, at 7.

39. See Phillips, *supra* note 37, at 18.

40. See *id.*

Ostensibly, these companies make money from selling test kits to customers. AncestryDNA sells a single testing kit for a regular price of \$99.⁴¹ 23andMe offers ancestry and traits tests for \$99, and a combined health, ancestry, and traits test for \$199.⁴² FamilyTreeDNA offers three separate DNA ancestry tests: (1) ethnic percentages and origins for \$79,⁴³ (2) paternal family line for \$119,⁴⁴ and (3) maternal family line for \$159.⁴⁵ However, when 23andMe sold access to its customer database in 2015, some wondered if the true profit model for consumer genetics was not selling tests to users but rather selling users' data to third parties.⁴⁶

Direct-to-consumer DNA ancestry testing companies each use a distinct marketing spin to appeal to their customers. AncestryDNA's marketing strategy references familial ties but focuses on geographical origins. The company promises that "[y]our AncestryDNA results include information about your geographic origins across 1000+ regions and identif[y] potential relatives through DNA matching to others who have taken the AncestryDNA test."⁴⁷ AncestryDNA claims that it "doesn't just tell you which countries you're from, but also can pinpoint the specific regions within them, giving you insightful geographic detail about your history."⁴⁸ It also offers the ability to "[t]race your ancestors' journeys over

41. DNA, Ancestry, <https://www.ancestry.com/dna> [<https://perma.cc/R2U6-APF4>] (last visited Aug. 26, 2020).

42. 23andMe, <https://www.23andme.com> [<https://perma.cc/D92P-YJAJ>] (last visited Aug. 26, 2020). Consumers can often purchase these products on sale at considerably reduced prices. See, e.g., 23andMe DNA Kits Are 50% Off Ahead of Black Friday, Today (Nov. 23, 2018), <https://www.today.com/health/23andme-kits-are-50-percent-amazon-black-friday-2018-t143624> [<https://perma.cc/K3NW-HT3U>] (last updated Nov. 25, 2019); Courtney Campbell, This Popular DNA Kit Is at Its Lowest Price of the Year Right Now, USA Today (Apr. 23, 2018), <https://www.usatoday.com/story/tech/reviewedcom/2018/04/23/this-popular-dna-kit-is-at-its-lowest-price-of-the-year-right-now/34171495> [<https://perma.cc/962E-J9Z6>] (last updated Apr. 24, 2018).

43. Discover Ethnic Percentages and Ancestry with Family Finder, FamilyTreeDNA, <https://www.familytreedna.com/products/family-finder> [<https://perma.cc/D6T4-9J28>] (last visited Sept. 17, 2020).

44. Trace Your Paternal Ancestry with Y-DNA, FamilyTreeDNA, <https://www.familytreedna.com/products/y-dna> [<https://perma.cc/22RH-NQA7>] (last visited Sept. 17, 2020).

45. Trace Your Maternal Ancestry with mtDNA, FamilyTreeDNA, <https://www.familytreedna.com/products/mt-dna> [<https://perma.cc/2QKH-VWUE>] (last visited Sept. 17, 2020).

46. See Sarah Zhang, Of Course 23andMe's Plan Has Been to Sell Your Genetic Data All Along, Gizmodo (Jan. 6, 2015), <http://gizmodo.com/of-course-23andmes-business-plan-has-beento-sell-your-1677810999> [<https://perma.cc/UK2X-6C7H>] ("If you're paying a cut rate to have 23andMe sequence your DNA, you are 23andMe's product."). Genetic privacy and individuals' ownership and control over their genetic data are serious concerns but are outside the scope of this Essay. For a discussion of genetic ownership controversies, see Jessica L. Roberts, Progressive Genetic Ownership, 93 *Notre Dame L. Rev.* 1105, 1121–28 (2018).

47. Ancestry, *supra* note 41.

48. *Id.*

time,” “[c]onnect with your people,” and “[b]uild a [family] tree—and magnify your DNA results.”⁴⁹

23andMe’s marketing employs the language of self-discovery and exploration. The company’s website includes the following tagline: “Three paths. One destination. You.”⁵⁰ It invites consumers to “[k]now what makes you, you.”⁵¹ It explains that “genetic insights . . . can help make it easier for you to take action on your health” and that their products allow you to discover “your personal story, in a whole new way.”⁵²

Not surprisingly, given its origin, FamilyTreeDNA focuses on familial connections. The company promises its tests will help consumers “[I]earn about [their] personal history and follow the path[s] of [their] ancestors.”⁵³ FamilyTreeDNA’s marketing also emphasizes the company’s ability to provide “industry-leading tests.”⁵⁴ It boasts of having “the world’s most comprehensive DNA matching database for autosomal DNA, Y-DNA, and mtDNA.”⁵⁵ The company continues to pair with National Geographic to give its customers “more insight into where [their] ancestors came from.”⁵⁶ Specifically, FamilyTreeDNA allows individuals who have participated in the National Geographic Genographic Project to transfer those results to FamilyTreeDNA in order to use its tools and services.⁵⁷

Albeit in somewhat different ways, all three companies attempt to capitalize on the idea that DNA is tied to identity, either familial, geographical, or personal. As Professor Timothy Caulfield argues, DNA ancestry testing companies market to consumers “a history that is rooted in biological variation, not culture or emotional connection. The clear message is that your genes are closely tied, at some intrinsic level, to who you are as a person.”⁵⁸ Because DNA ancestry tests are grounded in genetics, they naturally reinforce the idea—which is already deeply ingrained in the United States—that race is biologically determined. Indeed, Professor Dorothy Roberts warns that “the explosion in genetic ancestry testing is perpetuating a false understanding of individual and collective racial identities that can have widespread repercussions for our

49. *Id.*

50. 23andMe, *supra* note 42.

51. *Id.*

52. *Id.*

53. Begin Your DNA Journey, FamilyTreeDNA, <https://www.familytreedna.com> [<https://perma.cc/W3WY-VEMV>] (last visited Aug. 26, 2020).

54. *Id.*

55. *Id.*

56. National Geographic Genographic Project Transfers, FamilyTreeDNA, <https://www.familytreedna.com/nat-geo-transfer> [<https://perma.cc/XU35-3D75>] (last visited Aug. 31, 2020).

57. *Id.*

58. Timothy Caulfield, Is Direct-to-Consumer Genetic Testing Reifying Race?, *Pol’y Options* (Mar. 23, 2018), <http://policyoptions.irpp.org/magazines/march-2018/direct-consumer-genetic-testing-reifying-race> [<https://perma.cc/NR6G-JDAJ>].

society.”⁵⁹ In short, DNA ancestry tests are creating the conditions for genetic race.

B. *The Science and Limitations of DNA Ancestry Tests*

DNA ancestry tests represent a marriage of at least two separate areas of scientific inquiry: (1) genetic similarity and (2) human migratory patterns.⁶⁰ Importantly, the Human Genome Project revealed that human beings are 99.9% genetically similar.⁶¹ The variation in that remaining fraction of a percent is what enables DNA ancestry testing companies to predict people’s geographic origins.⁶² Yet how do these genetic differences arise and what allows these companies to correlate them with particular parts of the globe? In this section, we explain the science behind DNA ancestry tests and its limitations with respect to accurately predicting genetic ancestry.

1. *Background Science.* — Fully understanding DNA ancestry tests requires some knowledge of the underlying science. Here we offer a brief introduction to the nature of genetic variation and how scientists use those differences to predict an individual’s genetic ancestry.

First, DNA sequences change over time. Because organisms pass their genes from parent to offspring, children may inherit their parents’ genetic idiosyncrasies, including random genetic changes known as “mutations.”⁶³ DNA also changes as a result of sexual reproduction. Each person’s genome is a blend of her genetic parents’ DNA.⁶⁴ New traits enter populations as members of those populations mate and generate new genetic combinations. In short, mutations and sexual reproduction create

59. Dorothy Roberts, *Fatal Invention: How Science, Politics, and Big Business Re-Crete Race in the Twenty-First Century* 249 (2011) [hereinafter Roberts, *Fatal Invention*]. Roberts notes:

Genetic genealogy has tremendous power to influence the way we define race, determine who belongs to various racial groupings, and understand racial connections. Test results are being used not only as a means to explore personal identity, but also as a basis for claiming membership in racial groups in order to qualify for government benefits and entitlements.

Id. at 249–50.

60. See *id.* at 57–65.

61. Remarks on the Completion of the First Survey of the Human Genome Project, 1 *Pub. Papers* 1267, 1268 (June 26, 2000); Genetics vs. Genomics Fact Sheet, Nat’l Hum. Genome Rsch. Inst., <https://www.genome.gov/19016904/faq-about-genetic-and-genomic-science> [<https://perma.cc/T8ZL-E7N9>] (last updated Sept. 7, 2018).

62. See Roberts, *Fatal Invention*, *supra* note 59, at 59–62.

63. What Is a Gene Mutation and How Do Mutations Occur?, U.S. Nat’l Libr. of Med., <https://ghr.nlm.nih.gov/primer/mutationsanddisorders/genemutation> [<https://perma.cc/9V9K-FFYD>] (last visited Aug. 26, 2020).

64. What Is a Gene?, U.S. Nat’l Libr. of Med., <https://ghr.nlm.nih.gov/primer/basics/gene> [<https://perma.cc/AC49-6LMT>] (last visited Aug. 26, 2020).

genetic variation. Evolution may then tip in favor of the transmission of one genetic trait or another through reproduction.⁶⁵

Not all populations, however, are equally genetically diverse. In isolated populations, genetic similarity tends to increase over time. People in those populations have access to fewer mates. As a result, they breed with genetically similar individuals, thereby locking in the population-wide genetic traits. We know this phenomenon as “inbreeding.” Greater levels of genetic similarity within isolated populations make them more susceptible to certain genetic conditions.⁶⁶

Using the degree of genetic similarity between species, evolutionary biologists can measure “evolutionary distance.” Evolutionary distance roughly correlates to the number of years since two species that share a common genetic ancestor diverged. For example, human beings are ninety-six percent similar to chimpanzees with an evolutionary distance of about five to seven million years.⁶⁷

Although humans are members of the same species, evolutionary biologists can still speculate as to when one human population diverged from another. To draw these conclusions, scientists must work from widely held assumptions about where humans as a species originated. Most evolutionary biologists agree that modern humans began in East Africa.⁶⁸ Populations then migrated, probably in waves, to other regions of the world.⁶⁹ At varying points during these migrations, environmental

65. How Are Gene Mutations Involved in Evolution?, U.S. Nat'l Libr. of Med., <https://ghr.nlm.nih.gov/primer/mutationsanddisorders/evolution> [<https://perma.cc/9TY8-T2LW>] (last visited Aug. 26, 2020).

66. PM Galetti, Jr., Conservation Genetics, *in* 2 Brenner's Encyc. of Genetics 165, 165–66 (Stanley Maloy & Kelly Hughes eds., 2d ed. 2013).

67. Ajit Varki & Tasha K. Altheide, Comparing the Human and Chimpanzee Genomes: Searching for Needles in a Haystack, 15 *Genome Res.* 1746, 1746 (2005); Stefan Lovgren, Chimps, Humans 96 Percent the Same, *Gene Study Finds*, *Nat'l Geographic* (Aug. 31, 2005), <https://www.nationalgeographic.com/news/2005/8/chimps-humans-96-percent-the-same-gene-study-finds> [<https://perma.cc/J3YN-786V>]. Estimates of the evolutionary distance vary somewhat. Compare Galina V. Glazko & Masatoshi Nei, Estimation of Divergence Times for Major Lineages of Primate Species, 20 *Molecular Biology & Evolution* 424, 432 (2003) (“Therefore, we can probably say that the divergence between humans and chimpanzees occurred about 6 MYA with a rough range of 5–7 MYA.”), and Naoyuki Takahata, Yoko Satta & Jan Klein, Divergence Time and Population Size in the Lineage Leading to Modern Humans, 48 *Theoretical Population Biology* 198, 216 (1995) (listing that chimps and humans diverged 4.6 million years ago), with Oliver Venn, Isaac Turner, Iain Mathieson, Natasja de Groot, Ronald Bontrop & Gil McVean, Strong Male Bias Drives Germline Mutation in Chimpanzees, 344 *Science* 1272, 1274 (2014) (calculating that the average time when human and chimp genomes can be aligned is around thirteen million years ago).

68. See Chris Stringer, Out of Ethiopia, 423 *Nature* 692, 692 (2003); see also Andrea Manica, William Amos, François Balloux & Tsunehiko Hanihara, The Effect of Ancient Population Bottlenecks on Human Phenotypic Variation, 448 *Nature* 346, 346 (2007).

69. See Manica et al., *supra* note 68, at 349 (finding that there were likely land bridges that facilitated waves of emigration, including “a single connection between Africa and Eurasia via a route through the Sinai to the Levant, the Bering Strait between Eurasia

constraints—such as a mountain range or a rough winter—isolated populations, leading to inbreeding and the resulting locking in of certain genetic attributes.⁷⁰ As the populations continued to move, they carried with them the unique genetic traits associated with their geographic origin, thus making it possible to genetically group those populations. The more genetic data a researcher has, the finer the distinctions she can make. For example, DNA ancestry tests are quite reliable for individuals of predominantly European descent because those populations make up the bulk of the current databases.⁷¹

DNA ancestry tests use the assumptions described above to predict an individual's ancestral geographic origin. These predictions are then reported as the individual's "genetic ancestry." The DNA ancestry companies arrive at their results by comparing the individual consumer's genetic data to the populations in the companies' unique databases.⁷² Consequently, each DNA ancestry company could yield different results for the same consumer because the companies are using different reference databases.⁷³ Furthermore, as more consumers take DNA ancestry tests, the size and diversity of the companies' databases increase, which may lead companies to fine-tune their results and to reclassify their customers. For example, in spring 2019, AncestryDNA updated its database, leading the company to change the reported ethnicity for some

and the Americas, and connections between the Malaysian Peninsula to Melanesia and Oceania").

70. See Val C. Sheffield, Edwin M. Stone & Rivka Carmi, Use of Isolated Inbred Human Populations for Identification of Disease Genes, 14 *Trends Genetics* 391, 391–92 (1998).

71. See Ancestry Composition: 23andMe's State-of-the-Art Geographic Ancestry Analysis, 23andMe, <https://www.23andme.com/ancestry-composition-guide> [<https://perma.cc/K3P2-FCH6>] (last updated Sept. 2019) ("Historically, biomedical research has disproportionately focused on participants of European descent. Due to this bias, and . . . [because most] 23andMe customers have unmixed European ancestry, we have the most reference data from European populations, and we are able to distinguish as many sub-populations from Europe as across all of Asia."); Isabelle Mencia, Why DNA Ancestry Tests Are Struggling to Avoid White Bias, Study Break (Mar. 5, 2018), <https://studybreaks.com/news-politics/dna-ancestry-tests> [<https://perma.cc/9CUT-P98A>].

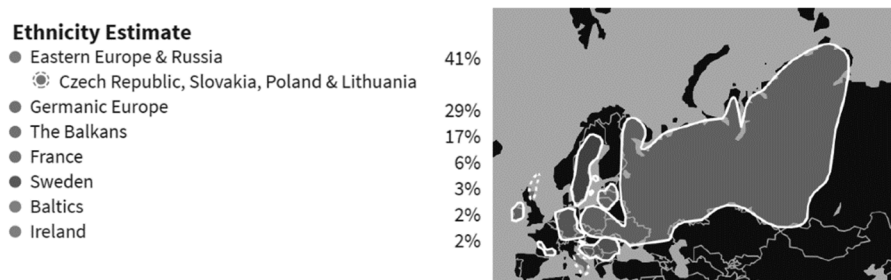
72. Charmaine D. Royal, John Novembre, Stephanie M. Fullerton, David B. Goldstein, Jeffrey C. Long, Michael J. Bamshad & Andrew G. Clark, Inferring Genetic Ancestry: Opportunities, Challenges, and Implications, 86 *Am. J. Hum. Genetics* 661, 665 (2010) ("[E]pidemiological inferences of genetic ancestry are typically applied to individuals and are nearly always based on the analysis of large collections of single nucleotide polymorphisms . . . or ancestry informative markers. . . . Each individual's genome is then mapped as a mosaic of segments inferred to be derived from . . . [the] ancestral population . . .").

73. Kirkpatrick & Rashkin, *supra* note 37, at 9; see also Royal et al., *supra* note 72, at 668 (highlighting the limitations to the publicly available databases that research geneticists use).

of its users.⁷⁴ One customer, whose son had taken a test, called the change in results “quite upsetting . . . because that’s his identity.”⁷⁵

Companies offering DNA ancestry tests may report an individual’s genetic ancestry in a number of ways. They may return results as continental origin such as European, East Asian, African, and Indigenous American.⁷⁶ Alternatively, companies may present results as biogeographical ancestry. Biogeographic ancestry compares a person’s DNA to modern populations.⁷⁷ Scientists can use biogeographic ancestry to predict an individual’s (or her ancestor’s) originating country.⁷⁸ Industry leaders like AncestryDNA and FamilyTreeDNA often combine the two with their ethnicity tests. Both companies return their results in terms of continental origin (e.g., Europe South/European) and in terms of countries (e.g., Italy). We provide examples of how those companies present their results in Figures 1 and 2 below.

FIGURE 1: ANCESTRYDNA⁷⁹



74. Liam Mannix & Alexandra Gauci, Time to Get that Viking Tattoo Removed? Ancestry Updates DNA Results, Sydney Morning Herald (Apr. 28, 2019), <https://www.smh.com.au/national/time-to-get-that-viking-tattoo-removed-ancestry-updates-dna-results-20190426-p51hnh.html> [<https://perma.cc/2DB3-XQK3>].

75. Id (internal quotation marks omitted) (quoting Simone).

76. Jennifer K. Wagner, Interpreting the Implications of DNA Ancestry Tests, 53 Persps. Biology & Med. 231, 236 (2010). Continental ancestry “assumes the existence of four or five major ‘parental’ populations that gave rise within the last 100,000 years to existing populations.” Royal et al., supra note 72, at 661. However, “there is little evidence that four biologically discrete groups of humans ever existed.” Bolnick et al., supra note 4, at 400.

77. Royal et al., supra note 72, at 661.

78. See Kirkpatrick & Rashkin, supra note 37, at 8–9.

79. This image comes from the results of an AncestryDNA test. AncestryDNA, DNAOrigins: DNA Results Summary 1 (2020) (on file with the *Columbia Law Review*).

FIGURE 2: FAMILYTREEDNA⁸⁰

DNA ancestry tests can also report an individual's relationships to their genetic family members.⁸¹ For example, AncestryDNA users not only gain access to information about their genetic ancestry (expressed in geographical terms) but also the ability to match with other users to whom they may be genetically related.⁸² Using this technology, one of the authors of this Essay located her genetic cousins. She had never met some of her matches because her father was adopted. The website compared her genetic data to that of its database and found enough genetic similarity to hypothesize that she and two other users were long-lost genetic relatives.

Law enforcement has used these kinds of familial matches as a crime-solving tool. For example, in April 2018, police arrested Joseph James DeAngelo for a string of decades-old assaults and murders after the DNA from his third and fourth cousins partially matched crime-scene DNA.⁸³ Investigators used the partial match to look for a suspect within the

80. This image comes from the results of a FamilyTreeDNA test. myFTDNA, Origins 1 (2020) (on file with the *Columbia Law Review*).

81. See Royal et al., *supra* note 72, at 661–63 (detailing the types of ancestry tests and genetic testing services that various companies offer); see also Kirkpatrick & Rashkin, *supra* note 37, at 10 (outlining the methodologies companies use to perform DNA relative matching).

82. See Kirkpatrick & Rashkin, *supra* note 37, at 10.

83. Natalie Ram, Christi J. Guerrini & Amy L. McGuire, *Genealogy Databases and the Future of Criminal Investigation*, 360 *Science* 1078, 1078 (2018); Jocelyn Kaiser, *We Will Find You: DNA Search Used to Nab Golden State Killer Can Home in on About 60% of White Americans*, *Science* (Oct. 11, 2018), <https://www.sciencemag.org/news/2018/10/we-will-find-you-dna-search-used-nab-golden-state-killer-can-home-about-60-white> [<https://perma.cc/J3LC-2JUA>].

cousins' family tree.⁸⁴ After zeroing in on DeAngelo, they then collected his discarded DNA for forensic testing and identified him as the alleged killer. As this case demonstrates, DNA can be a powerful tool for establishing genetic relatedness.⁸⁵ However, as we discuss in further detail below, DNA ancestry tests are far less reliable when it comes to predicting genetic ancestry.⁸⁶

2. *The Limitations of DNA Ancestry Tests.* — Having explained the science of DNA ancestry tests, we now turn to how these tests may fail to accurately predict a person's genetic ancestry. A variety of factors affect the ability to predict genetic ancestry: (1) the distribution of human genetic variation, (2) the genetic markers used as reference points, (3) the selection of reference populations, and (4) the statistical measures used for analysis.⁸⁷ As a result, there are certain things DNA ancestry tests cannot do.⁸⁸

First, DNA ancestry tests cannot perfectly calculate a person's continental origin or biogeographic ancestry. Even within populations, genetics vary and are inevitably matters of probability. There is no single genetic trait shared by all members of an ancestral population or that only occurs within a given population.⁸⁹ Consider this hypothetical. Genetic Marker 1 occurs in eighty-five percent of people with ancestors from Population A, whereas fifteen percent of people with ancestors from Population A have Genetic Marker 2. Genetic Marker 1 also occurs with much less frequency in people with ancestors from Populations B, C, and D, say in less than one percent of those individuals.

While DNA ancestry tests look at thousands of genetic markers and individuals have ancestors from multiple populations, we can nonetheless use our simplified hypothetical to illustrate how a person might receive an inaccurate result. Because a person with Genetic Marker 1 is most likely to have ancestors from Population A, DNA ancestry companies would likely link Genetic Marker 1 to Population A ancestry. A person who is descended from the fifteen percent without Genetic Marker 1 would be told they do not have Population A ancestry, whereas the rare person with Population B ancestry who has Genetic Marker 1 would be told they are

84. See Abigail Abrams, *How Did They Catch the Golden State Killer? An Online DNA Service and His Genetic Relatives Revealed the Suspect*, *Time* (Apr. 26, 2018), <http://time.com/5256835/how-did-golden-state-killer-genealogy-websites-online-dna-police> [<https://perma.cc/5N3U-HQCW>].

85. See *id.*

86. See *infra* section I.B.2.

87. Royal et al., *supra* note 72, at 667. For an in-depth discussion of the limitations of DNA ancestry testing as the result of these four factors, see *id.* at 667–69.

88. See *id.* at 661 (explaining that “[t]he very concept of ‘ancestry’ is subject to misunderstanding in both the general and scientific communities”).

89. See David Serre & Svante Pääbo, *Evidence for Gradients of Human Genetic Diversity Within and Among Continents*, 14 *Genome Res.* 1679, 1682–84 (2004) (discussing genetic diversity within and between continents).

descended from Population A. Therefore, a person who is in the genetic minority of an ancestral population will get an incorrect result. Moreover, even if a test can pinpoint some geographic locations where a particular genetic variant occurs frequently, it is unlikely to reveal every place that the genetic variation is found,⁹⁰ such as the rare—and perhaps unknown—occurrence of Genetic Marker 1 in Populations B, C, and D. Thus, even if a DNA genetic ancestry test indicates that an individual has zero percent of a particular background, it cannot completely rule out the possibility that the individual is actually a member of that ancestral group.⁹¹ As we discuss below, a different company with a more comprehensive database and more detailed set of match criteria could yield a more accurate result.

This hypothetical also explains why certain health conditions are more common in particular populations. Imagine that having Genetic Marker 1 makes a person a carrier for a particular genetic condition. People with Population A ancestry will be at greater risk. However, not all people with Population A ancestry will be carriers, and there will be carriers with other kinds of ancestry as well. For example, it is common knowledge that people with Ashkenazi Jewish ancestry are more likely to be carriers for Tay-Sachs.⁹² However, not all Tay-Sachs carriers are of Ashkenazi Jewish descent, and the vast majority of people who have Ashkenazi Jewish ancestry do not carry the genetic variant associated with Tay-Sachs.⁹³ Similarly, it is commonly known that people with African ancestry are more likely to be carriers for sickle cell.⁹⁴ However, not all sickle cell carriers are of African descent, and most people with African ancestry do not have that particular genetic variant.⁹⁵

Interestingly, individuals with Middle Eastern, Mediterranean, or South Asian ancestry may sometimes be misclassified as “Native American.” Why? Because some genetic markers coded as “Native

90. See Bolnick et al., *supra* note 4, at 399 (observing that while “genetic ancestry testing can identify some of the groups and locations around the world where a test-taker’s haplotype or autosomal markers are found, . . . it is unlikely to identify all of them”).

91. See Wagner, *supra* note 76, at 241–42 (noting that genomic ancestry tests frequently cannot prove a person is not of a particular ancestry “because the test alleles are found in multiple different populations, so that group-fraction assignments are probabilistic, not discretely different”); see also Royal et al., *supra* note 72, at 667 (“Accuracy is limited by the fact that every person has hundreds of ancestors going back even a few centuries and thousands of ancestors in just a millennium. . . . Genetic ancestry tests can access only a fraction of these ancestral contributions.”).

92. Troy Duster, *Buried Alive: The Concept of Race in Science*, *Chron. Higher Educ.* (Sept. 14, 2001), <https://www.chronicle.com/article/buried-alive-the-concept-of-race-in-science> (on file with the *Columbia Law Review*).

93. See *id.*; Tay Sachs Disease, Nat’l Org. for Rare Disorders, <https://rarediseases.org/rare-diseases/tay-sachs-disease> [<https://perma.cc/6Q2K-GC56>] (last visited Sept. 17, 2020) (“Approximately one in 30 Ashkenazi Jewish people carries the altered gene for Tay-Sachs disease.”).

94. See Duster, *supra* note 92.

95. See *id.*

American” are present within other ancestral populations.⁹⁶ In a particularly colorful variation on this theme, a man received a result indicating that he was a descendant of Genghis Khan, only to discover that he was not actually one of Khan’s genetic relatives.⁹⁷ Like in our hypothetical of Genetic Markers 1 and 2, these results occur when a DNA ancestry company categorizes a variant as “Native American” or “related to Genghis Khan” while ignoring the fact that the variant also occurs—albeit with less frequency—in other ancestral populations.⁹⁸

These examples demonstrate that, although a database may contain tens of thousands of samples, it may still fail to capture the full extent of genetic diversity within a particular group or in a particular area.⁹⁹ For instance, one common criticism of DNA ancestry testing is that the individuals who get the most reliable results tend to be of predominantly European descent because of their overrepresentation in the reference databases.¹⁰⁰

Individuals taking DNA ancestry tests may be unaware of the extent of the tests’ limitations. As Section I.A discusses, the DNA ancestry testing industry may actually reinforce misconceptions about the tests’ meaning and accuracy in its efforts to attract new clients.¹⁰¹ However, it is worth emphasizing that even if DNA ancestry tests could predict ancestral origins with perfect accuracy, it would still be a mistake to conflate those results with race.¹⁰² As Part II explains, the results of these tests fail to reflect the

96. See Bolnick et al., *supra* note 4, at 400 (“Because no archaeological, genetic, or historical evidence supports [the suggestion that people with Middle Eastern, Mediterranean, or South Asian ancestry also have Native American ancestry], the test probably considers some markers to be diagnostic of Native American ancestry when, in fact, they are not.”).

97. Nicholas Wade, *Falling from Genghis’s Family Tree*, N.Y. Times (June 21, 2006), <https://www.nytimes.com/2006/06/21/science/21genghis.html> (on file with the *Columbia Law Review*).

98. See *id.*

99. Bolnick et al., *supra* note 4, at 399.

100. See Royal et al., *supra* note 72, at 665 (“[T]here are limitations to the accuracy of ancestry inference within and among regions. Several studies that sampled populations deeply across Europe have shown that population structure can be inferred even at fine spatial scales (i.e., the scale of several hundreds of kilometers) within Europe.”). At the population level, genetic tests tend to be less accurate than their genomic counterparts. See Bolnick et al., *supra* note 4, at 399 (noting that genomic DNA ancestry tests attempt to provide a better measure of overall ancestry by analyzing more genetic markers).

101. Bolnick et al., *supra* note 4, at 399 (“[B]oth scientists and consumers should approach genetic ancestry testing with caution because . . . commercialization has led to misleading practices that reinforce misconceptions.”).

102. See Royal et al., *supra* note 72, at 661 (“This conception of ancestry is frequently equated with that of ‘race,’ and the terms are often used interchangeably; however, this is problematic because in the history of science there have been many ‘racial’ taxonomic schemes.”). Moreover, “these [ancestry informative markers] are not found in all peoples who would be classed together as a given ‘parental’ population.” Bolnick et al., *supra* note 4, at 400.

social, cultural, relational, and experiential norms that define racial classification schemes.¹⁰³

C. *Effects of DNA Ancestry Tests on Racial and Ethnic Identity*

At first blush, DNA ancestry tests may appear to be harmless tools for self-exploration. They are frequently described as “recreational,”¹⁰⁴ and commercials for DNA ancestry tests, such as the one featuring Kyle described in the Introduction, are fun and lighthearted in tone. Yet by stating that their services will give people a greater understanding of who they are, DNA ancestry testing companies reinforce beliefs in genetic race. Test takers can, and do, misconstrue these products as tests for biological race. This section considers how individuals react to their results.

Some people have happily received their DNA ancestry test results. For example, one satisfied customer—after lauding a DNA ancestry company’s professionalism—wrote: “Most importantly, I trust their scientific methodology so I have no trouble accepting the findings. Actually, it turns out that I am exactly who I thought I was because my more recent ancestors were to be found not so far away from the newly-discovered mitochondrial cousins!”¹⁰⁵

Another DNA ancestry test taker was delighted with his results because he believed they proved his family’s “true” origin: “After one simple test, I have proof that family tradition was wrong; that my family are *really* [Swiss]. Because of this test, we’ve solved a major genealogical dilemma, with dramatic evidence of the continuity of family lines.”¹⁰⁶

Lyn, an AncestryDNA customer, was similarly pleased with her results. In her testimonial, Lyn states:

I didn’t know where I was from ethnically. So, we sent that sample off to Ancestry. My AncestryDNA results are that I’m twenty-six percent Nigerian. I’m just trying to learn as much as I can about my culture. I put the Gele on my head and I looked into the mirror and I was trying not to cry. Cause it’s a hat. But it’s like the most important hat I’ve ever owned.¹⁰⁷

103. See Bolnick et al., *supra* note 4, at 400 (“Current understandings of race and ethnicity reflect more than genetic relatedness, though, having been defined in particular sociohistorical contexts (i.e., European and American colonialism). In addition, social relationships and life experiences have been as important as biological ancestry in shaping individual identity and group membership.”).

104. See *supra* note 4.

105. Testimonials, Roots for Real, http://www.rootsforreal.com/testimonials_en.php [<https://perma.cc/NNW7-8ADT>] (last visited Aug. 26, 2020) (testimonial of V.L. Young).

106. Our Customers’ Comments & Testimonials, FamilyTreeDNA, <http://www.familytreedna.com/testimonials.aspx> [<https://perma.cc/JZG5-TJF8>] (last visited Aug. 26, 2020) (emphasis added) (testimonial of Justin Howery).

107. Ancestry, AncestryDNA | Lyn Discovers Her Ethnicity Discoveries | Ancestry, YouTube (Sept. 2, 2016), https://www.youtube.com/watch?v=0l0_ttMidII (on file with the *Columbia Law Review*).

Reactions to genetic ancestry results, however, are not always positive. This is particularly true when the results conflict with an individual's self-identified race or their expressed race and observed race.¹⁰⁸ Self-identified race is the race that you consider yourself to be. Expressed race is the race you say you are to others.¹⁰⁹ Observed race is the race others actually assume you to be.¹¹⁰ When DNA ancestry test results contradict any of these perceptions of race, the test taker may experience psychological stress and may fear a loss of status, personal and professional relationships, and material benefits.¹¹¹ In these situations, test takers are more likely to reject their test results.

A recent study by Professor Aaron Panofsky and Dr. Joan Donovan illustrates the latter point, as well as the malleability of racial categories.¹¹² Using a white nationalist online forum as their focus group, Panofsky and Donovan recorded and evaluated how self-identified white nationalists responded to DNA ancestry tests indicating mixed-race ancestry. The study not only evaluated how members of this community perceived their own surprising results, but also examined how members perceived and responded to the results of other members. Panofsky and Donovan found that despite the forum's professed commitment to racial purity, most responses tended to reframe the results in a manner that allowed members to maintain their white identities.¹¹³ Of the members who responded to another poster's ancestry results, more were supportive than denunciatory.

Panofsky and Donovan found that the supportive responses fell into two broad categories. Responses in the first category expressed support by rejecting the validity of the ancestry tests themselves. These responses included allegations that the testing companies had distributed erroneous results to fulfill an anti-white agenda,¹¹⁴ as well as recommendations that people use their family's personal accounts rather than ancestry tests to trace their genealogy.¹¹⁵ Other users in this category claimed that race and ethnicity were as simple as what a person sees in the mirror.¹¹⁶ Responses in the second category expressed support by reinterpreting the test results.

108. See Ellis P. Monk, Jr., *The Costs of Color: Skin Color, Discrimination, and Health Among African-Americans*, 121 *Am. J. Socio.* 396, 410 (2015) (discussing the multiple dimensions of racial identification in the United States).

109. *Id.*

110. *Id.*

111. See Bolnick et al., *supra* note 4, at 399; Wagner, *supra* note 76, at 238.

112. See Aaron Panofsky & Joan Donovan, *Genetic Ancestry Testing Among White Nationalists: From Identity Repair to Citizen Science*, 49 *Soc. Stud. Sci.* 653, 657–58 (2019).

113. See *id.* at 661–62 (explaining that “many [genetic ancestry test] users are willing to appeal to fellow Stormfront posters for interpretive help or moral support in the face of problematic news despite the ostensibly absolute membership criterion” and showing that there were more supportive responses than denunciatory ones).

114. *Id.* at 666.

115. *Id.* at 665.

116. *Id.* at 665–66.

These responses took many forms but often included leeway for statistical error or a focus on the ancestry tests' lack of precision.¹¹⁷

From these findings, Panofsky and Donovan concluded that the white nationalist movement possesses the flexibility to reframe and respond to DNA ancestry test results in ways that allow people to retain their white nationalist identity. Indeed, the group may tolerate—or even intentionally claim—diversity within whiteness.¹¹⁸

Panofsky and Donovan's findings are unsurprising given that a person's embrace or rejection of ancestry test results often depends upon a variety of factors, including the person's evaluation of their pre-test identity. Professor Wendy Roth and Biorn Ivermark argue that test takers filter genetic information through two social mechanisms, "their *identity aspirations*, or preferences for the ethnic or racial identities they seek to claim, and their *social appraisals*, their assessment of how others will accept their identity claims."¹¹⁹

Roth and Ivermark's "genetic options theory" was confirmed by participants in their study.¹²⁰ For example, Amy, who was adopted and had been told that her mother was German, reported that she was "embarrassed to be German because of what happened with the Holocaust."¹²¹ When Amy read her test results as indicating both German and Basque ancestry, she embraced her Basque ancestry and began exploring and emphasizing it more than her German ancestry.¹²²

By contrast, Shannon responded differently to her test results. Shannon's adoptive father told her that she had Native American ancestry, an identity with which Shannon strongly identified (along with being white).¹²³ When Shannon's test results indicated no Native American ancestry, she reported that "I about fell over . . . I mean I was literally hysterical, that's how much it means to me to be Indian."¹²⁴ Shannon ultimately decided that the tests must be wrong, and she continued to identify as Native American and white.¹²⁵

The above examples demonstrate that, for better or worse, some people take the results of DNA ancestry tests seriously. When test results

117. *Id.* at 667 (explaining "[t]he most common tactic is to dismiss low levels of anomalous ancestry as 'statistical error'").

118. *Id.* at 674. Panofsky and Donovan warn that this flexibility may pose considerable challenges to those "hoping to promulgate anti-racist understandings of human genetic variation and identity." *Id.* at 677.

119. Roth & Ivermark, *supra* note 5, at 152.

120. *Id.* Roth and Ivermark followed one hundred Americans and assessed the extent to which these individuals changed their racial identities in the eighteen months following their ancestry tests. *Id.* at 151–52.

121. *Id.* at 165–66.

122. *Id.* at 166.

123. *Id.*

124. *Id.*

125. *Id.*

conflict with an individual's desired or preferred identity, the test taker may reject them. When test results align with an individual's desired or preferred identity, they are more positively received and can trigger a reaffirmation of an existing racial or ethnic identity or a redefinition of the individual's self-identified race.

To be sure, most people do not change their racial identities based on the results of DNA ancestry tests.¹²⁶ For example, in the Roth and Ivemark study mentioned above, fifty-nine percent of the test takers did not change their racial or ethnic identities after their DNA ancestry test.¹²⁷ However, thirty-six percent of test takers did.¹²⁸ This finding underscores the belief that race is biologically determined and scientifically verifiable. It also highlights the heavy influence that DNA ancestry tests can have on personal identity.

In Part II, we address how biological accounts of race ignore the social, economic, political, and cultural aspects of racial identity,¹²⁹ and in so doing, threaten to entrench racial hierarchies.

II. DEFINING RACE: FROM BIOLOGICAL TO SOCIAL

Genetic race is unfortunately nothing new. The idea of race as biological—and therefore scientifically verifiable—dates back almost four centuries. This Part contextualizes genetic race within the long history of biological understandings of race. Section II.A describes the historical origins of biological race and how various entities, including legal actors, have used the concept to justify and bolster social, political, and economic hierarchies. Section II.B explains the modern view of race as a social construction. We argue that genetic race, if left unchecked, could become the latest installment in the harmful and misguided legacy of biological race in the United States.

A. *Historical Foundations of Biological Race*

Professor Dorothy Roberts has observed that “[t]he way we think about race today is the product of historical coincidence.”¹³⁰ Historically,

126. See *id.* at 163 (stating that only about a third of respondents incorporated geneticized identities based on test results).

127. *Id.* at 163.

128. *Id.* (reporting that “[o]f those whose identities changed, most did not give up their previous ethnic or racial identities, but rather incorporated an additional identity”).

129. See Nelson, *supra* note 4, at 75–76 (describing the assumption of some genetic testing companies that racial groups are self-contained); Roberts, *Fatal Invention*, *supra* note 59, at 74, 255 (“[S]cientists seem oblivious to their reliance on social assumptions about race in their genetic research.”); Bolnick et al., *supra* note 4, at 400 (“Because race has such profound social, political, and economic consequences, we should be wary of allowing the concept to be redefined in a way that obscures its historical roots and disconnects it from its cultural and socioeconomic context.”); Duster, *supra* note 92.

130. Roberts, *Fatal Invention*, *supra* note 59, at 28.

Europeans employed a variety of metrics, including religious, cultural, and morphological differences, to create group hierarchies. Over time, these factors were supplemented—if not supplanted—by scientific arguments.¹³¹

In the late 1600s, François Bernier, a French physician, was among the first Europeans to sort humans into discrete categories based on geographic location and phenotype.¹³² Soon thereafter, white Europeans developed a hierarchy of physically distinct groups, not surprisingly, placing themselves at the top and Black people at the bottom.¹³³ By 1800, the idea of biologically distinct racial groups, marked by inherited, immutable characteristics and attributes, was in place.¹³⁴ Thus, as Professor Joe Feagin notes, “[R]ace was, from its inception, a folk classification, a product of popular beliefs about human differences that evolved from the sixteenth century through the nineteenth centur[y].”¹³⁵ As we show below, understandings of race continue to evolve today. This section traces these developing conceptions and demonstrates how biological race has been used to defend colonialism, racial slavery, and the continued systematic subordination of people whom Europeans viewed as inferior.

1. *Biological Race and Slavery.* — Race science, which began in the 1600s with people like Bernier, became particularly important as white Europeans were increasingly tasked with defending colonialism and the American institution of chattel slavery. Justifications for slavery rested on a belief in the innate inferiority of Black people.¹³⁶ Many influential leaders argued that these individuals were destined to be enslaved—and indeed that enslavement was to their benefit—due to their “natural

131. Roberts notes that “the concept of race as a natural category arose from the convergence . . . in eighteenth-century Europe . . . of the scientific revolution and . . . colonialism.” *Id.* She argues that the expanding slave trade “necessitated a racial system of governance” while the scientific revolution led to a “shift among European intellectuals from theological to biological thinking, giving the institution of science ultimate authority over truth and knowledge.” *Id.*

132. Joe R. Feagin & Clairece Booher Feagin, *Racial and Ethnic Relations* 5 (6th ed. 1999); Ibram X. Kendi, *Stamped from the Beginning: The Definitive History of Racist Ideas in America* 55–56 (2016). In 1684, Bernier remarked that “there are in all four or five Types of Race among men whose distinctive traits are so obvious that they can justifiably serve as the basis of a new division of the Earth.” François Bernier, *A New Division of the Earth*, 51 *Hist. Workshop J.* 247, 247 (2001) (reprinting Bernier’s April 1684 essay).

133. Feagin & Feagin, *supra* note 132, at 5; Roberts, *Fatal Invention*, *supra* note 59, at 28–36.

134. See Feagin & Feagin, *supra* note 132, at 5 (“It was only in the late eighteenth century that the term race came to mean a category of human beings with distinctive physical characteristics transmitted by descent.”).

135. *Id.* (quoting Audrey Smedley, *Race in North America* 25 (1993)).

136. See Albert Deutsch, *The First U.S. Census of the Insane (1840) and Its Use as Pro-Slavery Propaganda*, 15 *Bull. Hist. Med.* 469, 469 (1944) (discussing published studies that asserted Black people were a subhuman species more closely related to apes than to whites).

intellectual limitations,” like having a “brain . . . so fragile an organ as never to be able to withstand the pressure of civilized responsibility.”¹³⁷

Eighteenth- and nineteenth-century philosophers and scientists like Johann Blumenbach and Samuel George Morton led the push for empirical evidence to prove racial hierarchies.¹³⁸ This pseudoscience,¹³⁹ which today is known as scientific racism, was specifically intended to reverse engineer “scientific” proof that race and racial hierarchies were predetermined by nature, and thus justified.¹⁴⁰

Blumenbach, a German anatomist, was perhaps the most influential proponent of scientific racism. Based upon studies of skulls and human anatomy, Blumenbach sorted humans into five racial groups, in the following rank order: Caucasians (Europeans), Mongolians (Asians), Ethiopians (Africans), Americans (Native Americans), and Malays (Polynesians).¹⁴¹ Morton, an American physician and anatomy professor, grounded his theories in craniometry, which is the measurement of skulls to estimate mental capacity.¹⁴² Based on brain size, Morton claimed to discern a descending order of intelligence with “Caucasians” at the pinnacle of the racial order and Blacks at its nadir.¹⁴³ Other physicians like Samuel Cartwright, who practiced in Mississippi and Louisiana, also sought to use their medical training to explain Black inferiority.¹⁴⁴ Cartwright argued that biological differences caused enslaved Black

137. *Id.* at 470.

138. For an excellent overview of the development of racial science, see Roberts, *Fatal Invention*, *supra* note 59, at 28–43.

139. Professor Roberts cautions against use of the label “pseudoscience” as it suggests that using science to support racist ideas was somehow an exceptional, extreme abuse of science by bad actors. She notes that “what we call racial pseudoscience today was considered the vanguard of scientific progress at the time it was practiced, and those who practiced it were admired by the scientific community and the public as pioneering geniuses.” Roberts, *Fatal Invention*, *supra* note 59, at 27–28.

140. George M. Fredrickson, *Racism: A Short History* 56–58 (2015); see also Roberts, *Fatal Invention*, *supra* note 59, at 27–36.

141. Feagin & Feagin, *supra* note 132, at 6; Kate MacCord, Johann Friedrich Blumenbach (1752–1840), *Embryo Project Encyc.* (Jan. 22, 2014), <https://embryo.asu.edu/pages/johann-friedrich-blumenbach-1752-1840> [<https://perma.cc/4UXN-PYXG>]. Blumenbach used the term “Caucasian” because he believed Europeans in the Caucasus mountains of Russia were “the most beautiful race of men.” Feagin & Feagin, *supra* note 132, at 5. He also thought the earliest humans originated in this area. *Id.* In part, due to its origins in scientific racism and its descriptive inaccuracy, the term Caucasian is viewed by some as a racial epithet. See Yolanda Moses, *Why Do We Keep Using the Word “Caucasian”?*, *Sapiens* (Feb. 1, 2017), <https://www.sapiens.org/column/race/caucasian-terminology-origin> [<https://perma.cc/T3ZW-4T3B>].

142. Robert A. Smith, *Types of Mankind: Polygenism and Scientific Racism in the Nineteenth Century United States Scientific Community* 30 (May 2014) (M.A. thesis, Pittsburg State University) (on file with the *Columbia Law Review*).

143. See *id.* at 31 (discussing Morton’s theories).

144. See *id.* (citing Samuel A. Cartwright, *Report on the Diseases and Physical Peculiarities of the Negro Race*, 7 *New Orleans Med. Surgical J.* 691 (1851)).

persons to experience mental infirmities and other diseases that rendered them incapable of self-determination. He noted:

[T]he brain being ten per cent less in volume and in weight, he is, from necessity, more under the influence of his instincts . . . and animality, than other races of men and less under the influence of his reflective faculties His mind being thus depressed by the excessive development of the nerves of organic life, nothing but arbitrary power, prescribing and enforcing temperance in all things, can restrain the excesses of his mental nature and restore reason to her throne.¹⁴⁵

Although Charles Darwin's theory of evolution, propounded in the mid-nineteenth century, could have served as a check on the idea of clearly delineated and immutable racial groups, scientists used Darwin's theories to support their existing views of race rather than to undermine them.¹⁴⁶ For example, Clémence Royer, an evolutionary scientist, produced a popular French translation of Darwin's works. This translation included a preface¹⁴⁷ in which Royer argued that "[s]uperior races are destined to supplant inferior ones One needs to think carefully before claiming political and civic equality among people composed of an Indo-European minority and a Mongolian or Negro majority."¹⁴⁸ In short, Royer attempted to combine racial science and evolutionary theory to "prove" that nonwhites were biologically inferior and were therefore undeserving of equal rights.

Influential U.S. politicians and lawmakers were not immune to the appeal of scientific racism. In *Notes on the State of Virginia*, Thomas Jefferson spends several pages discussing the inferiority of Black people, observing: "The first difference [between white and Black people] which strikes us is that of colour. . . . [T]he difference is fixed in nature, and is as real as if its

145. Samuel A. Cartwright, *Essays, Being Inductions Drawn from the Baconian Philosophy Proving the Truth of the Bible and the Justice and Benevolence of the Decree Dooming Canaan to be Servant of Servants* 12 (1843).

146. In *On the Origin of Species*, Darwin argues that biological organisms evolve over the course of generations through a process of natural selection. Charles Darwin, *On the Origin of Species* (1859). Professor Roberts observes that "Darwin's radical view that the human species comprises varieties that are changeable and impossible to demarcate might have undermined the typological understanding of race Instead, most scientists adapted Darwin's theories to preexisting views of racial types." Roberts, *Fatal Invention*, supra note 59, at 34.

147. See Annalee Newitz, *The 9 Most Influential Works of Scientific Racism, Ranked*, Gizmodo (May 13, 2014), <https://io9.gizmodo.com/the-9-most-influential-works-of-scientific-racism-rank-1575543279> [<https://perma.cc/RXC4-FVLN>] (citing Joseph-Antenor Firmin, *The Equality of the Human Races* 271 (Asselin Charles trans., Univ. of Ill. Press 2002) (1885) (commenting on Clémence Royer's preface to *On the Origin of Species* by Charles Darwin)).

148. *Id.* (second alteration in original) (internal quotation marks omitted) (quoting Joseph-Antenor Firmin, *The Equality of the Human Races* 271 (Asselin Charles trans., Univ. of Ill. Press 2002) (1885)).

seat and cause were better known to us.”¹⁴⁹ Jefferson proceeds to make numerous observations about the relative physical attributes and psychological and intellectual capacities of Blacks and whites, stating in part: “[I]t appears to me, that in memory they are equal to the whites; in reason much inferior.”¹⁵⁰

The decennial census of 1840, which reported that rates of mental disease and defect among free Black people were eleven times higher than among enslaved Black people, fueled the flames of scientific racism.¹⁵¹ Proslavery advocates used this supposedly objective government-approved data to proclaim the necessity of slavery. For example, John C. Calhoun¹⁵² cited the census on the floor of Congress to bolster his conclusion that “[t]he African is incapable of self-care and sinks into lunacy under the burden of freedom. It is a mercy to him to give him the guardianship and protection from mental death.”¹⁵³

Beliefs in biological race also found expression in nineteenth-century case law. For example, in *Hudgins v. Wrights*, the Virginia Supreme Court was tasked with determining whether three plaintiffs were enslaved or free.¹⁵⁴ When it was unable to determine the plaintiffs’ ancestry with accuracy, the court relied upon physical features to ascertain their race.¹⁵⁵ The court noted: “Nature has stampd upon the African and his descendants two characteristic marks, besides the difference of

149. Thomas Jefferson, Notes on the State of Virginia 138 (William Peden ed., 1955). Some argue that Jefferson was torn over whether Black people’s supposed inferiority to whites was innate or whether it was the result of decades of enslavement. See, e.g., Enlightenment Influence: Racism in Notes on the State of Virginia, Monticello, Thomas Jefferson Found., <https://www.monticello.org/slavery-at-monticello/liberty-slavery/enlightenment-influence-racism-notes-state-virginia-1781> [<https://perma.cc/Z4A4-LNJS>] (last visited Oct. 20, 2019). Jefferson states that “[i]t will be right to make great allowances for the difference of condition, of education, of conversation, of sphere in which they move.” Jefferson, *supra*, at 139. Further, he concludes his discussion of slavery stating:

I advance it therefore as a suspicion only, that the blacks, whether originally a distinct race, or made distinct by time and circumstances, are inferior to the whites in the endowments both of body and mind. It is not against experience to suppose that different species of the same genus, or varieties of the same species, may possess different qualifications.

Id. at 143. Yet, other scholars have concluded that Jefferson was a proponent of biological race. See e.g., Interview by PBS with Paul Finkelman, Professor, Mitchell Hamline Sch. of L., <https://www.pbs.org/jefferson/archives/interviews/Finkelman.htm> [<https://perma.cc/3DA4-BVVD>] (“[Jefferson] knew in his heart that slavery was wrong, and yet at the same time was so hooked into the system and could never give it up, [and] felt the necessity of creating a scientific rationale for racism.”).

150. Jefferson, *supra* note 149, at 149.

151. Deutsch, *supra* note 136, at 471–72.

152. Calhoun was a former U.S. Vice President and a leader of the secession movement. *Id.* at 473.

153. *Id.* (internal quotation marks omitted) (quoting Robert W. Wood, Memorial of Edward Jarvis, M.D. 11 (1885)).

154. 11 Va. (1 Hen. & M.) 134, 136 (1806).

155. *Id.* at 137, 139–40.

complexion, which often remain visible long after the characteristic distinction of colour either disappears or becomes doubtful; a flat nose and a woolly head of hair."¹⁵⁶ Because the plaintiffs appeared white, and one had long, straight, black hair, the court ruled that they enjoyed a presumption of freedom.¹⁵⁷

In 1857, drawing upon prevalent beliefs in the biological inferiority of Black people, the U.S. Supreme Court held in *Dred Scott v. Sandford* that neither enslaved Africans nor their descendants—whether free or enslaved—were United States citizens.¹⁵⁸ The Court observed:

[Black people] had for more than a century before been regarded as beings of an inferior order, and altogether unfit to associate with the white race, either in social or political relations; and so far inferior, that they had no rights which the white man was bound to respect; and that the negro might justly and lawfully be reduced to slavery for his benefit.¹⁵⁹

Political leaders and jurists thus used biological race, undergirded by racial science, to justify slavery and to try and reconcile it with the nation's expressed commitment to liberty and equality. Pervasive acceptance of scientific arguments regarding Black racial inferiority (and white superiority) allowed chattel slavery to be characterized as a benevolent enterprise designed to save Black people from themselves,¹⁶⁰ and one that was not at odds with the nation's founding principles.¹⁶¹ Chattel slavery thus became the moral solution to a biological problem, and whites were absolved of any guilt or blame for this heinous institution.¹⁶²

156. *Id.* at 139.

157. *Id.* at 141–42.

158. 60 U.S. (19 How.) 393, 407 (1857), superseded by constitutional amendment, U.S. Const. amend. XIV.

159. *Id.* at 407.

160. See, e.g., Deutsch, *supra* note 136, at 473–74 (noting that the 1840 census's conclusions were widely accepted in newspapers, political speeches, and scientific tracts and were used to argue against the emancipation of enslaved persons).

161. Professor Roberts explains:

Biological difference was essential to justifying the enslavement of Africans in a nation founded on a radical commitment to liberty, equality, and natural rights. White Americans had to explain black subjugation as a natural condition, not one they imposed by brute force for the nation's economic profit. Treating race as biology constituted the only suitable "moral apology" . . . for slavery in a society that claimed equality as its most cherished ideal.

Roberts, *Fatal Invention*, *supra* note 59, at 24.

162. Scientific explanations of Black biological inferiority were often buttressed by religious explanations rooted in the Old Testament story of Ham. See Stephen R. Haynes, *Race, National Destiny, and the Sons of Noah in the Thought of Benjamin M. Palmer*, 78 *J. Presbyterian Hist.* 125, 125 (2000); Keith E. Sealing, *Blood Will Tell: Scientific Racism and the Legal Prohibitions Against Miscegenation*, 5 *Mich. J. Race & L.* 559, 571–72 (2000); Joseph Smith, Jr., *Letter to Oliver Cowdery*, *Latter Day Saints' Messenger & Advoc.*, Apr. 9, 1836, at 289.

2. *Racial Terrorism and Jim Crow.* — The need to differentiate between white and nonwhite intensified as the United States, under the guise of Manifest Destiny, expanded its borders to include territories with large nonwhite populations.¹⁶³ As Professor Laura Gómez explains, at the end of the Mexican–American War in 1848, the United States sought to secure the maximum amount of land and the least number of Brown and Indigenous bodies (which at the time greatly outnumbered whites in what subsequently became the U.S. Southwest).¹⁶⁴ As a result of competing interests, what emerged was a more nuanced “racial hierarchy with four tiers . . . : Euro-Americans at the top; followed by Mexicans, as a ‘native’ group with a formal claim to white status; followed by Pueblo Indians as a buffer group among the three native groupings (Mexican, Pueblo, other Indian); with nomadic and semi-nomadic Indian tribes at the bottom.”¹⁶⁵ Importantly, white supremacist ideology, founded on biological conceptions of race, drove this hierarchy.¹⁶⁶

In addition to complexities wrought by western expansion, following the Civil War and ratification of the Fourteenth Amendment, millions of Black people became U.S. citizens.¹⁶⁷ Although many Black Americans thrived during the period of radical Reconstruction,¹⁶⁸ as Professor Osagie

163. See Laura E. Gómez, *Manifest Destinies: The Making of the Mexican American Race* 138, 157 (2d ed. 2018) (claiming that “Manifest Destiny was central to the larger nineteenth-century processes that restructured the American racial order” and “Mexican Americans, as a group, have continued to be off-white, neither definitively white or definitively non-white”).

164. Laura E. Gómez, *Off-White in an Age of White Supremacy: Mexican Elites and the New Rights of Indians and Blacks in Nineteenth-Century New Mexico*, 25 *Chicano-Latino L. Rev.* 9, 18–21 (2005).

165. *Id.* at 26–27.

166. *Id.* at 17–18.

167. See U.S. Const. amend. XIV, § 1.

168. Radical Reconstruction (1865–1877) was a period of unprecedented achievement and optimism for Black Americans. In addition to the Fourteenth Amendment, the country ratified the Thirteenth and Fifteenth Amendments to the U.S. Constitution, which abolished slavery and eliminated racial restrictions on the right to vote, respectively. *Id.* amend. XIII, § 1; amend. XV, § 1. Congress established the Bureau of Refugees, Freedmen, and Abandoned Lands (The Freedmen’s Bureau) to supply food, hospitals, land, and education to formerly enslaved persons. *Freedmen’s Bureau Act*, ch. 90, 13 Stat. 507 (1865) (repealed 1872). Congress also passed numerous statutes to extend basic civil rights and civil liberties to formerly enslaved persons, including the Civil Rights Acts of 1866, 1870, and 1875. *Civil Rights Act of 1875*, ch. 114, 18 Stat. 335, 336 (prohibiting racial discrimination in public accommodations, including transportation); *Civil Rights Act of 1870*, ch. 114, 16 Stat. 140 (seeking to limit intrusions on the right to vote and to end terrorization of Black Americans by organizations like the Ku Klux Klan); *Civil Rights Act of 1866*, ch. 31, 14 Stat. 27 (establishing birthright citizenship and equal protection rights).

The tangible effects of these changes were extraordinary. During Reconstruction, Black Americans built and enrolled in schools, launched corporate enterprises, developed social clubs, and were elected to public office, among other things. See John Hope Franklin & Alfred A. Moss, Jr., *From Slavery to Freedom: A History of African Americans* 227–46 (7th ed. 1994). As Black men exercised the right to vote, integrated, progressive state and local governments formed across the South. *Id.* at 239–46. For example, between 1868 and 1896,

Obasogie observes, “there were equally powerful opposing forces determined to maintain racial subordination, [and] [t]he increasingly sophisticated notion of race-as-biology [provided these forces with] rational and objectively verifiable” evidence of Black inferiority.¹⁶⁹ Obasogie notes that biological race thus “not only justified the status quo, [i]t gave moral impetus to the belief that to try to change these status relationships would be contrary to evolutionary progress and, thus, society itself.”¹⁷⁰

Unsurprisingly, radical Reconstruction and the period thereafter were marked by backlash and racial terrorism as whites sought to reinforce the racial order and to impose a state of de facto servitude on Blacks. Whites formed “White Leagues” and other white supremacist organizations like the Ku Klux Klan (KKK).¹⁷¹ Dedicated to protecting white racial purity and buttressing white social, economic, and political hegemony, these groups used various means to terrorize Black communities, including property destruction and physical violence (up to and including murder).¹⁷²

Racial terrorism was not, however, limited to members of white supremacist organizations. Average white citizens—committed to asserting their superior status to Blacks—were also participants. Following Reconstruction, public lynchings became relatively commonplace.¹⁷³

Louisiana alone had 133 Black legislators, of whom thirty-eight were senators and ninety-five were representatives. *Id.* at 239–40. During that time, three Black Americans served as lieutenant governor of the state, and one Black American served briefly as acting governor. *Id.*

169. Obasogie, *supra* note 22, at 12–13.

170. *Id.* at 13.

171. The KKK was founded in 1865. Klanwatch Project, S. Poverty L. Ctr., *Ku Klux Klan: A History of Racism and Violence* 9 (6th ed. 2011), <https://www.splcenter.org/sites/default/files/Ku-Klux-Klan-A-History-of-Racism.pdf> [<https://perma.cc/LQ4R-Y4JS>]. Within months, its members began to ride through Black neighborhoods nightly, threatening residents with violence. *Id.* Soon, thousands of Klansmen began to make good on these threats of violence with whippings, cross burnings, and lynchings. *Id.* at 12. By 1868, the Klan had drafted its first set of organizational principles, establishing itself as a white supremacist organization committed to upholding the racial hierarchy. *Id.* at 14.

172. See, e.g., *id.* at 9. A substantial body of evidence indicates that racial terror was effective in chilling or otherwise altering the behavior of Black Americans. In particular, racial terror seems to have caused Black Americans to flee their neighborhoods. Equal Justice Initiative, *Lynching in America: Confronting the Legacy of Racial Terror* 55 (3d ed. 2017), <https://lynchinginamerica.eji.org/report> [<https://perma.cc/BL68-PEWH>] [hereinafter *Equal Justice Initiative, Lynching in America*]. For example, after a 1912 lynching in Georgia, “white vigilantes distributed leaflets demanding that all black people leave the county or suffer deadly consequences.” *Id.* at 38. The threat appears to have worked, as just eight years later, “the county’s black population had plunged from 1100 to just thirty.” *Id.*

173. For instance, between 1877 and 1950, more than 4,000 racial terror lynchings were documented in twelve southern states. During the same time period, there were more than 300 racial terror lynchings documented in other states. *Equal Justice Initiative, Lynching in America*, *supra* note 172, at 5–6. These numbers exclude “hangings and mob violence that

Lynchings were not necessarily about punishing specific individuals but were rather attempts to degrade and dehumanize Black Americans generally.¹⁷⁴ They were often community events with “large crowds of whites watch[ing] and participat[ing] in the [B]lack victims’ prolonged torture.”¹⁷⁵ Some lynchings were carnival-like, attended by thousands,¹⁷⁶ with “vendors selling food, printers producing postcards featuring photographs of the lynching and corpse, and [attendees collecting] the victim’s body parts . . . as souvenirs.”¹⁷⁷ Because lynchings were organized to garner maximum visibility and to incite maximum terror in Black Americans, they were frequently held in prominent places within a town’s Black community.¹⁷⁸

Lynchings were used to reinforce social norms that accompanied a racial hierarchy built on white supremacy. Hundreds of Black Americans were lynched for social transgressions like “speaking disrespectfully [to a white person], refusing to step off the sidewalk, . . . [or] using an improper title for a white person.”¹⁷⁹ Another commonly offered justification was the alleged expression of sexual interest in a white woman.¹⁸⁰ Countless Black men were killed for the most insignificant infractions, while others were killed for no infraction at all.¹⁸¹ Importantly, racial terror was backed by the full force of the law. Prominent white community members frequently attended lynchings. Moreover, prosecutions for property destruction and physical violence were few and far between, and convictions were nearly nonexistent.¹⁸²

followed some criminal trial process or that were committed against non-minorities without the threat of terror.” *Id.*

174. *Id.* at 5.

175. *Id.* at 28.

176. *Id.* at 33. The attendees included children. *Id.*

177. *Id.*

178. *Id.* at 38.

179. *Id.* at 31–32 (citing numerous stories of Black Americans lynched for minor social transgressions, including “referring to a white police officer by his name without the title of ‘mister,’” “accidentally bumping into a white girl . . . to catch a train,” and “annoying white girls”).

180. A common thread underlying racial terror was the overwhelming fear of race mixing, or interracial sex. See *id.* at 30 (identifying six of the most common reasons for lynchings, beginning with “a wildly distorted fear of interracial sex”). Klansmen, for example, justified their actions by declaring them “necessary to defend the purity of [w]hite women.” Kendi, *supra* note 132, at 249. The fear of race mixing was considerable, “extend[ing] to any action by a [B]lack man that could be interpreted as seeking or desiring contact with a white woman.” Equal Justice Initiative, *Lynching in America*, *supra* note 172, at 30.

181. See, e.g., Equal Justice Initiative, *Lynching in America*, *supra* note 172, at 31. Nearly twenty-five percent of the lynchings in the South stemmed from accusations of sexual assault. *Id.* Importantly, these lynchings often occurred in cases where the survivor had not identified the perpetrator. *Id.*

182. *Id.* at 35.

During Reconstruction, Southern legislatures also began to reenact “Black Codes.” These laws specifically targeted Black Americans and were designed to restrict their mobility and to reaffirm their substandard position in the sociopolitical and economic hierarchy.¹⁸³ Frequently, Black Codes deprived Black Americans of the right to vote and to serve on juries.¹⁸⁴ Some Codes restricted their earning capacity, thereby ensuring their perpetual placement in the working class. Importantly, Black Codes often created new criminal charges, which spawned mass arrests of Black Americans and proliferation of the brutal system of convict leasing.¹⁸⁵

In addition to Black Codes, Southern states enacted anti-miscegenation statutes and other laws designed to segregate the races. Anti-miscegenation laws, which date back to the 1600s, criminalized interracial relationships and were premised on a belief that interracial sex would dilute or contaminate white blood lines.¹⁸⁶ For example, the State of Alabama passed a law that imposed greater penalties for adultery or fornication between whites and Blacks than for the same conduct between persons of the same race.¹⁸⁷ In upholding the statute in *Pace v. State*, the Alabama Supreme Court noted that mixed-race cohabitation, unlike same-race cohabitation, threatened “the amalgamation of the two races, producing a mongrel population and a degraded civilization.”¹⁸⁸ Because anti-miscegenation laws were designed to maintain white racial purity and white supremacy, they expressly targeted relationships between whites and nonwhites,¹⁸⁹ but not relationships among subordinate racial groups.

Thus, as the nineteenth century came to a close, Americans had developed rigid color lines enforced by law, social norms, and the threat of racial terror. Importantly, the U.S. Supreme Court seemingly condoned the legal subclass that Black Americans occupied. In a series of cases, the

183. *Id.* at 22–24.

184. Some states, like Mississippi for example, went as far as to amend their constitutions to disenfranchise Black Americans. *Id.* at 22–23.

185. *Id.* In convict leasing, states leased inmates as a source of cheap labor to private parties, like plantation owners. These private parties were responsible for providing laborers with food and shelter, but often conditions were as bad as, or worse than, under slavery. *Id.*

186. Kendi, *supra* note 132, at 41 (“In 1664, Maryland legislators declared it a ‘disgrace to our nation’ when ‘English women . . . intermarry with Negro slaves.’ By the end of the century, Maryland and Virginia legislators had enacted severe penalties for White women in relationships with non-White men.”); Kathy Russell-Cole, Midge Wilson & Ronald E. Hall, *The Color Complex: The Politics of Skin Color in a New Millennium* 15 (rev. ed. 2013) (noting that “[a]s early as 1622, a little more than two years after the first Africans had stepped ashore, Virginia legislators were passing antimiscegenation statutes”).

187. See, e.g., *Pace v. State*, 69 Ala. 231, 232 (1881) (“[A] different punishment is affixed to the offense of adultery when committed between a negro and a white person, and when committed between two white persons or two negroes . . .”).

188. *Id.*

189. An exception was between whites and Native Americans. See Act to Preserve Racial Integrity, Va. Code § 20-54 (1960) (making it unlawful in the state of Virginia for any white person to marry any nonwhite person except for someone with mixed white and Native American ancestry).

Court eviscerated the Reconstruction Amendments by limiting Congress's power to promote racial equity. For example, in the *Civil Rights Cases*, the Court invalidated parts of the Civil Rights Act of 1875, holding that the Fourteenth Amendment proscribes discriminatory action only by the state, and not that engaged in by private individuals.¹⁹⁰ Consequently, it was not a denial of equal protection for private entities to refuse to grant Black Americans access to “inns, public conveyances, theatres, and other places of public amusement.”¹⁹¹ In *Pace v. Alabama*, the Court also upheld Alabama's anti-miscegenation law, concluding that the statute treated Black and white offenders exactly the same.¹⁹² And, in the now infamous case of *Plessy v. Ferguson*, the Court upheld a Louisiana statute requiring separate railway cars for members of the white and “colored” races.¹⁹³

Plessy merits close analysis not only because of the Court's disingenuous embrace of the “separate but equal” doctrine, but also because of the Court's unquestioned adoption of biological race.

190. The *Civil Rights Cases*, 109 U.S. 3, 11 (1883); see also *United States v. Reese*, 92 U.S. 214, 217–18 (1875) (holding a federal law regulating voting discrimination inapplicable because states retained the right to regulate their elections); *Slaughter-House Cases*, 83 U.S. (16 Wall.) 36, 74–75 (1873) (holding the Fourteenth Amendment's “privileges and immunities” clause applied only to rights set forth in the U.S. Constitution, and not to rights supplied by state law).

191. *Civil Rights Cases*, 109 U.S. at 10. Similarly, in *United States v. Cruikshank*, a case arising out of the state of Louisiana, the Court held that the Fourteenth Amendment's due process and equal protection provisions did not apply to individual actions, but only to those of state actors. 92 U.S. 542, 554 (1875) (“The fourteenth amendment prohibits a State from depriving any person of life, liberty, or property, without due process of law; but this adds nothing to the rights of one citizen as against another.”). The Court also restricted the First and Second Amendments, holding that constitutional limitations on the rights of assembly and to bear arms only applied to the federal government, and not to the states. *Id.* at 552–53. The *Cruikshank* case arose from the 1873 Colfax Massacre, one of the worst known incidents of racial violence after the Civil War. Following a disputed gubernatorial election, pro-Confederacy white Democrats attacked a group of Black individuals, including Black Republicans, who had assembled at a local courthouse. After the Black individuals had surrendered, the white mob shot and hanged many of them, resulting in the deaths of 60–150 Black Americans. Only three whites were killed.

192. *Pace v. Alabama*, 106 U.S. 583, 584–85 (1883) (observing that “the punishment . . . is directed against the offense designated and not against the person of any particular color or race” and that “[t]he punishment of each offending person, whether white or black is the same”).

193. 163 U.S. 537 (1896). In rejecting *Plessy*'s Thirteenth Amendment argument, the Court stated:

A statute which implies merely a legal distinction between the white and colored races—a distinction which is founded in the color of the two races, and which must always exist so long as white men are distinguished from the other race by color—has no tendency to destroy the legal equality of the two races, or reestablish a state of involuntary servitude.

Id. at 543 (emphasis added). In rejecting *Plessy*'s Fourteenth Amendment claims, the Court similarly noted that “legislation is powerless to eradicate racial instincts or to abolish distinctions based upon physical differences, and the attempt to do so can only result in accentuating the difficulties of the present situation.” *Id.* at 551.

Critically, in its factual summary, the Court noted “that the mixture of colored blood was not discernible” in the plaintiff, Homer Plessy.¹⁹⁴ In other words, Plessy appeared white. Yet, based on knowledge of his mixed-racial heritage, the railway conductor treated Plessy as if he were colored, and the state subsequently arrested him for occupying a white railway car.¹⁹⁵ Thus, Plessy’s race was apparently in his blood. Indeed, after upholding the Separate Car Act, the Supreme Court stated that an important question likely remained concerning Plessy’s race under Louisiana law, observing:

[T]he question of the proportion of colored blood necessary to constitute a colored person, as distinguished from a white person, is one upon which there is a difference of opinion in the different states; some holding that any visible admixture of black blood stamps the person as belonging to the colored race; others that it depends upon the preponderance of blood; and still others that the predominance of white blood must only be in the proportion of three-fourths.¹⁹⁶

3. *Eugenics and the Rule of Hypodescent.* — As this brief historical overview shows, a widespread belief in the biological inferiority of Black people led to a harrowing system of racial terrorism during and immediately after Reconstruction. This system was sanctioned and advanced by law. Indeed, in *Plessy*’s wake, states increasingly adopted “Jim Crow”¹⁹⁷ laws which mandated racial segregation in just about all areas of American life, including public accommodations, public schools, and intimate relations.¹⁹⁸ In a society that was increasingly racially diverse, interracial associations threatened efforts to maintain racial caste. Jim Crow laws thus were a form of social control, in effect telling Black Americans that they were so inferior that they could not occupy the same space as whites and that they were not entitled to the same benefits and opportunities as whites. The laws also sent a message of superiority to whites, furthering a sense among them that their privileged status was innate and God-given, rather than unfairly bestowed by law and tradition.

Yet Jim Crow and racial terror were not the only mechanisms used to entrench racial hierarchies in the United States. The eugenics movement, founded by Sir Francis Galton, an English scientist, also used dubious science to make claims about racial difference. Eugenicists believed that “intelligence and other personality traits are genetically determined and therefore inherited.”¹⁹⁹ However, instead of relying upon natural selection to eliminate inferior groups, eugenicists sought governmental inter-

194. *Id.* at 538.

195. *Id.* at 538–39.

196. *Id.* at 552.

197. Jim Crow laws were named after a famous nineteenth-century minstrel character. Lerone Bennett, Jr., *Before the Mayflower: A History of Black America* 255–56 (1993).

198. *Id.* at 256.

199. Roberts, *Fatal Invention*, *supra* note 59, at 36.

ventions to prevent the deterioration of the white race.²⁰⁰ These policies included the forced sterilization of Blacks and other “inferior” races, the implementation of immigration restrictions to limit the influx of undesirable groups, and increased attention to anti-miscegenation laws.²⁰¹

Importantly, enforcement of Jim Crow laws, anti-miscegenation prohibitions, and a regime of “separate but equal” required that states determine who was Black (and conversely, who was white). And in the early decades of the twentieth century, states increasingly adopted the principle of hypodescent, or the “one drop rule,” to police the color line.²⁰² This rule classified any individual with one drop of African blood, or one African ancestor, as Black. This simplistic construction of genetically traceable racial identity was frequently transmitted into law. Notably, in 1924, Virginia became the first state to codify the one-drop rule in its “Act to Preserve Racial Integrity,” which stated in pertinent part:

It shall hereafter be unlawful for any white person in this State to marry any save a white person, or a person with no other admixture of blood than white and American Indian. For the purpose of this chapter, the term ‘white person’ shall apply only to such person as has no trace whatever of any blood other than Caucasian.²⁰³

In *Naim v. Naim*,²⁰⁴ which upheld the state’s anti-miscegenation law, the Virginia Supreme Court found that “the State’s legitimate purposes were ‘to preserve the racial integrity of its citizens’ and to prevent ‘the corruption of blood,’ ‘a mongrel breed of citizens,’ and ‘the obliteration of racial pride.’”²⁰⁵

200. *Id.*

201. *Id.* at 36–42.

202. Although states formally codified the rule in the Jim Crow era, scholars locate its origin at earlier points in U.S. history. See, e.g., Daniel J. Sharfstein, *Crossing the Color Line: Racial Migration and the One-Drop Rule, 1600–1860*, 91 *Minn. L. Rev.* 592 (2007) (examining the historical origins of the one-drop rule from the colonial period through the Jim Crow era); Robert Westley, *First-Time Encounters: “Passing” Revisited and Demystification as a Critical Practice*, 18 *Yale L. & Pol’y Rev.* 297, 313–14 (2000) (centering the one-drop rule in nineteenth-century laws of maternal descent).

203. Act to Preserve Racial Integrity, Va. Code § 20-54, invalidated by *Loving v. Virginia*, 388 U.S. 1 (1967).

204. 87 S.E.2d 749 (Va. 1955), vacated, 350 U.S. 891 (1955).

205. *Loving*, 388 U.S. at 7 (quoting *Naim*, 87 S.E.2d at 756). The trial court in *Loving* was equally forthright in its views, noting:

Almighty God created the races white, black, yellow, malay and red, and he placed them on separate continents. And but for the interference with his arrangement there would be no cause for such marriages. The fact that he separated the races shows that he did not intend for the races to mix.

Id. at 3. In discussing the lower court’s decision and its reliance on *Naim*, the Supreme Court in *Loving* noted that these statements were “obviously an endorsement of the doctrine of White Supremacy.” *Id.* at 7.

While notions of biological race predominate throughout U.S. history, it is important to note that decision makers used racial science, along with other conceptions of race, to limit access to whiteness and white privilege. The famous *Thind* and *Ozawa* cases demonstrate this complexity. In *Ozawa v. United States*, Takao Ozawa, a Japanese immigrant, applied for naturalization as a U.S. citizen.²⁰⁶ At the time, U.S. law only permitted “free white persons” and persons of “African nativity” or “African descent” to be naturalized.²⁰⁷ Ozawa argued that naturalization was not restricted to these groups and that his extended residence in the United States, his education, and his character qualified him for citizenship.²⁰⁸ The U.S. Supreme Court ruled against Ozawa, finding that naturalization was limited to the aforementioned groups and that “white person” only referred to “what is popularly known as the Caucasian race.”²⁰⁹ The Court noted that prior cases holding that Japanese individuals were not Caucasian were “sustained by numerous scientific authorities.”²¹⁰

Interestingly, a year later in *United States v. Thind*, Bhagat Singh Thind, a South Asian immigrant, argued that he was eligible for naturalization because race scientists at the time considered Indians to be Caucasian.²¹¹ The U.S. Supreme Court, however, rejected Thind’s arguments, in effect saying that science alone was not sufficient to ground a claim to whiteness. The Court observed that “during the last half century especially, the word [Caucasian] by common usage has acquired a popular meaning, not clearly defined to be sure, but sufficiently so to enable us to say that its popular as distinguished from its scientific application is of appreciably narrower scope.”²¹² Thus, in *Ozawa* and *Thind*, the Court

206. 260 U.S. 178, 189 (1922).

207. *Id.* at 189–90 (noting that the District Court of Hawaii had deemed that the appellant was not eligible for naturalization under § 2169 of the Revised Statutes).

208. *Id.* at 189.

209. The Court determined that skin color was an unreliable indicator of race, noting: [T]he test afforded by the mere color of the skin of each individual is impracticable, as that differs greatly among persons of the same race, even among Anglo-Saxons, ranging by imperceptible gradations from the fair blond to the swarthy brunette, the latter being darker than many of the lighter hued persons of the brown or yellow races. Hence to adopt the color test alone would result in a confused overlapping of races and a gradual merging of one into the other, without any practical line of separation.

Id. at 197.

210. *Id.* at 198.

211. See 261 U.S. 204, 210 (1923).

212. *Id.* at 209. Following the Supreme Court’s decision in *Thind*, many South Asians were denaturalized and lost their property. One such person, Vaishno das Bagai, committed suicide. Bagai’s suicide note attests to the psychological, economic, and social significance of racial classifications. The note read, in part:

I came to America thinking, dreaming and hoping to make this land my home. Sold my properties and brought more than twenty-five thousand dollars (gold) to this country, established myself and tried to give my

cycled back and forth between scientific and popular understandings of race in determining who was white.²¹³

Although multiple interwoven factors have been used to police racial boundaries, the above history shows that biological race has played a dominant role in racial classification in the United States. Indeed, the view that nature created race—that is, that race is innate, inheritable, and unchangeable and that racial groups are genetically identifiable and separable—has ossified within mainstream U.S. culture. Yet, as we explain below, the concept of biological race is antithetical to most contemporary scholarly understandings of race.

B. *Race as a Social Construction*

The genocide committed during World War II, as well as the overt racial terrorism and rhetoric that accompanied it, led to an important shift in international views of race. Following the war, the United Nations founded the Educational, Scientific and Cultural Organization (UNESCO) and convened leading scholars to develop a formal statement on race.²¹⁴ UNESCO's initial statement seemingly rejected biological race in favor of a social definition, declaring: "[T]here is no proof that the groups of mankind differ in their innate mental characteristics, whether in respect of intelligence or temperament."²¹⁵ It explained that "genetic

children the best American education . . . But now they come to me and say, I am no longer an American citizen. They will not permit me to buy my home and, lo, they even shall not issue me a passport to go back to India. Now what am I? What have I made of myself and my children?

Kritika Agarwal, *Living in a Gilded Cage: Vaishno Das Bagai's Disillusionment with America*, S. Asian Am. Digit. Archive (Aug. 6, 2014), <https://www.saada.org/tides/article/living-in-a-gilded-cage> [<https://perma.cc/4LZL-7482>] (internal quotation marks omitted) (quoting Bagai). For an engaging analysis of the *Ozawa* and *Thind* cases, see California Newsreel, *Race: The Power of an Illusion (The House We Live In)*, Facing Hist. & Ourselves (Apr. 29, 2003), <https://www.facinghistory.org/resource-library/video/race-power-illusion-house-we-live?token=37864112> (on file with the *Columbia Law Review*).

213. Some scholars maintain that the opinions, in this respect, are inconsistent. See Ian Haney López, *White by Law: The Legal Construction of Race* 56–77 (2006). Others, however, disagree and assert that science and common knowledge are interwoven. For example, in his examination of the cases, Professor Devon Carbado notes:

[S]cience and common knowledge are codependent: common-knowledge understandings of race often have their foundation in science. For example, during much of the Jim Crow era in the South, it was commonly understood—that is, a part of Southern society's common knowledge—that blood quantum determined one's racial identity. The social intelligibility of this idea is directly linked to nineteenth-century scientific notions of race and racial categorization. The one-drop rule is both a scientific idea and a product of common understanding.

Devon W. Carbado, *Yellow by Law*, 97 Calif. L. Rev. 633, 637 (2009).

214. See UNESCO, *Fallacies of Racism Exposed*, UNESCO Courier, July–Aug. 1950, at 1. For an overview of early statements on race produced by UNESCO, see Jean Hiernaux & Michael Banton, *Four Statements on the Race Question* 7 (1969).

215. Hiernaux & Banton, *supra* note 214, at 34.

differences are not of importance in determining the social and cultural differences between different groups of *homo sapiens*, and . . . social and cultural changes in different groups have, in the main, been independent of changes in inborn constitution.”²¹⁶ Thus, UNESCO called for a shift to understanding race and racial inequality as social in meaning and origin, rather than biological.²¹⁷

Since that time, academic, legal, and scientific communities have consistently debunked biological notions of race and, conversely, have espoused that race is a social construct.²¹⁸ Indeed, experts have shown that no single genetic characteristic is exclusive to any socially constructed racial group.²¹⁹ Moreover, intraracial genetic variation (genetic variation within racial groups) is greater than interracial genetic variation (genetic variation between racial groups).²²⁰

Certainly, morphological and other physical differences (e.g., in skin tone, facial features, and hair texture) between racial groups exist and have a genetic basis.²²¹ Scientific inquiry, however, has not demonstrated

216. *Id.*

217. UNESCO issued another statement on race in 1951. As Professor Roberts points out: Both UNESCO statements disclaimed the practice of ranking races. But neither document abandoned the concept of biological race altogether. Instead, both statements took issue with race as an *ideological* doctrine of inferiority that was responsible for deadly social conflicts. They distinguished the Nazis’ ideological use of race for repressive purposes from the scientific use of race for legitimate research.

Roberts, *Fatal Invention*, *supra* note 59, at 44–45.

218. See *Saint Francis Coll. v. Al-Khazraji*, 481 U.S. 604, 610 n.4 (1987) (citing sources supporting the theory that racial classifications are “sociopolitical, rather than biological, in nature”); R. C. Lewontin, *The Apportionment of Human Diversity*, in 6 *Evolutionary Biology* 381, 397 (Theodosius Dobzhansky, Max K. Hecht & William C. Steere eds., 1972) (concluding that because racial classifications do not reflect fundamental genetic differences, biologists should abandon talk of biological races). But see Masatoshi Nei & Arun K. Roychoudhury, *Genetic Relationship and Evolution of Human Races*, 14 *Evolutionary Biology* 1, 11, 41 (1982) (noting that “while the interracial genetic variation is small . . . the genetic differentiation is real and generally statistically highly significant” and that “the racial differences in many morphological characters have a genetic basis”). For insightful analyses and critiques of the scientific evidence, see Kwame Anthony Appiah, *In My Father’s House: Africa in the Philosophy of Culture* 35–39 (1992); Roberts, *Fatal Invention*, *supra* note 59, at 55–80.

219. See Appiah, *supra* note 218, at 35 (discussing the lack of genetic exclusivity among races).

220. See Nei & Roychoudhury, *supra* note 218, at 11, 40–41 (finding that “the interracial genic variation . . . relative to the intraracial genic variation . . . is quite small”).

221. See Nicholas G. Crawford, Derek E. Kelly, Matthew E. B. Hansen, Marcia H. Beltrame, Shaohua Fan, Shanna L. Bowman, Ethan Jewett, Alessia Ranciaro, Simon Thompson, Yancy Lo, Susanne P. Pfeifer, Jeffrey D. Jensen, Michael C. Campbell, William Beggs, Farhad Hormozdiani, Sununguko Wata Mpoloka, Gaonyadiwe George Mokone, Thomas Nyambo, Dawit Wolde Meskel, Gurja Belay, Jake Haut, NISC Compar. Sequencing Program, Harriet Rothschild, Leonard Zon, Yi Zhou, Michael A. Kovacs, Mai Xu, Tongwu Zhang, Kevin Bishop, Jason Sinclair, Cecilia Rivas, Eugene Elliot, Jiyeon Choi, Shengchao A. Li, Belynda Hicks, Shawn Burgess, Christian Abnet, Dawn E. Watkins-Chow, Elena

that the genes responsible for these characteristics also account for attributes that society frequently assigns to racial groups (e.g., differences in language, morality, physicality, sexuality, intellectual capacity, propensity for criminal behavior, or political ideology).²²² In short, there is no gene for race.

The key is not to confuse the indicator with the thing that it is indicating. Physical characteristics and ancestry, among other things,²²³ are used to place individuals within a socially constructed racial category. For example, society frequently uses skin color to assign race. The lighter or darker one's skin tone, the more likely one is to be characterized respectively as white or as nonwhite. In this example, skin color is an indicator of race but is not in and of itself race.²²⁴ This distinction is essential to understanding race as a social construct.

The U.S. Supreme Court has recognized that there are multiple indicators of race. For example, in *Saint Francis College v. Al-Khazraji*, the Court recognized that phenotype is not dispositive in determining "race," stating that "a distinctive physiognomy is not essential to qualify for § 1981 protection" against race discrimination.²²⁵ Rather, the Court determined

Oceana, Yun S. Song, Eleazar Eskin, Kevin M. Brown, Michael S. Marks, Stacie K. Loftus, William J. Pavan, Meredith Yeager, Stephen Chanock & Sarah A. Tishkoff, Loci Associated with Skin Pigmentation Identified in African Populations, 358 *Science* 887, 887 (2017) (discussing genes associated with skin color); NIH, Is Hair Texture Determined by Genetics?, Genetics Home Reference, <https://ghr.nlm.nih.gov/primer/traits/hairtexture> [<https://perma.cc/689U-PAGJ>] (last visited Sept. 16, 2020) (discussing genetic factors associated with hair texture); see also Nicholas Wade, East Asian Physical Traits Linked to 35,000-Year-Old Mutation, *N.Y. Times* (Feb. 14, 2013), <https://www.nytimes.com/2013/02/15/science/studying-recent-human-evolution-at-the-genetic-level.html> (on file with the *Columbia Law Review*).

222. Appiah, *supra* note 218, at 35; see also Nei & Roychoudhury, *supra* note 218, at 41–42 (“[T]he genetic distance between populations is not always correlated with the morphological distance. . . . Evidently, the evolutions at the structural gene level and at the morphological level do not obey the same rule.”).

223. In addition to physical characteristics (e.g., skin color, hair texture, the shape of the eyes and nose) and ancestry, other factors might also be employed singly, or in combination, to assign race. Some of these factors include geographical affiliation, dress, name, language or accent, demeanor, place of residence, religion, and marital and social connections.

224. See Sheldon Krimsky, Introduction to Race and the Genetic Revolution: Science, Myth, and Culture 3–4 (Sheldon Krimsky & Kathleen Sloan eds., 2011) (noting that although race is a social construct, “[i]t is not unusual for people to sort one another into group categories by external characteristics including ethnicity, language, skin color, and morphological features”).

225. 481 U.S. 604, 613 (1987). The case involved a § 1981 claim by a U.S. citizen of Iraqi descent against a college. *Id.* at 606. Section 1981 prohibits discrimination on the basis of race in the making and enforcement of contracts, including employment contracts. See 42 U.S.C. § 1981 (2018). The defendant sought to challenge the plaintiff's inference of discriminatory conduct by asserting that both the plaintiff and the relevant college administrators were white and that the statute did not encompass claims of discrimination by “one Caucasian against another.” *Saint Francis*, 481 U.S. at 609–10. The defendant maintained that under modern racial classifications, Arabs, and thus the plaintiff, are white.

that ancestry can also be used to assign race.²²⁶ The Court thus concluded that Al-Khazraji, whom the defendants maintained was Caucasian, could set forth a claim of intentional race discrimination if he could prove that he was of Arabic ancestry.²²⁷

While skin color and ancestry are indicators or proxies for race and may be used in racial classification and to further racial discrimination,²²⁸ these indicators have no self-evident or innate meaning; rather, they have social meaning.²²⁹ Race then is the social meaning ascribed to indicators like skin color and ancestry.²³⁰ It is a “constantly evolving product[] of the

Id. Although the Court appears to reject—or, at minimum, to question seriously—the concept of biological race in cases like *Saint Francis* and *Thind*, see *supra* notes 206–213 and accompanying text, some scholars argue that it has continued to acknowledge the existence of biological race outside of the law. For example, Professor Khiara Bridges argues:

[The] Court has created two conceptual entities: a *legal race* that denotes socially constructed groups, and a *scientific race* that denotes biologically similar groups[,] . . . [and] this rhetorical move functions to make the Court complicit in the resuscitation of racial biology, as it implicitly reaffirms the idea that there exist *rac*es that are not products of social construction, but rather are products of genetic homogeneity.

Khiara M. Bridges, *The Dangerous Law of Biological Race*, 82 *Fordham L. Rev.* 21, 26 (2013) (emphasis added to “race” and “races”).

226. *Saint Francis*, 481 U.S. at 613.

227. In attempting to distinguish between race, religion, and national origin, the Court stated that Al-Khazraji must demonstrate that “he was born an Arab” and that he was not basing his claim “solely on the place or nation of his origin, or his religion.” *Id.*

228. Proxy discrimination occurs when society treats individuals differently based upon a seemingly neutral criterion that is closely related to a racial group. See, e.g., *McWright v. Alexander*, 982 F.2d 222, 228 (7th Cir. 1992) (noting that discriminating against individuals with gray hair is a proxy for age discrimination because the fit between age and gray hair is sufficiently close (citing *Finnegan v. Trans World Airlines, Inc.*, 967 F.2d 1161, 1163 (7th Cir. 1992))). See generally Devon W. Carbado & Mitu Gulati, *Acting White? Rethinking Race in “Post-Racial” America 1* (2013) (examining identity performance discrimination and the social significance of, among other things, hair and dress); Angela Onwuachi-Willig, *Another Hair Piece: Exploring New Strands of Analysis Under Title VII*, 98 *Geo. L.J.* 1079, 1086 (2010) (examining race discrimination on the basis of hair); Angela Onwuachi-Willig & Mario L. Barnes, *By Any Other Name?: On Being “Regarded As” Black, and Why Title VII Should Apply Even if Lakisha And Jamal Are White*, 2005 *Wis. L. Rev.* 1283 (explaining how names may serve as proxies for race); Camille Gear Rich, *Performing Racial and Ethnic Identity: Discrimination by Proxy and the Future of Title VII*, 79 *N.Y.U. L. Rev.* 1134, 1142 (2004) (arguing that the definitions of race and ethnicity under Title VII should be expanded to include “performed features associated with racial and ethnic identity”). Like these commentators, we believe that discrimination based upon a proxy that is closely associated with race is race discrimination and ought to be legally cognizable. For a contrasting view, see Richard T. Ford, *Race as Culture? Why Not?*, 47 *UCLA L. Rev.* 1803, 1812–13 (2000) (arguing against legal recognition of proxy discrimination).

229. See Feagin & Feagin, *supra* note 132, at 7 (noting that races are “simply groups with visible differences that Europeans and European Americans have decided to emphasize as important in . . . social, economic, and political relations”); Trina Jones, *Shades of Brown: The Law of Skin Color*, 49 *Duke L.J.* 1487, 1493–98 (2000) [hereinafter Jones, *Shades of Brown*] (discussing the social significance of skin color, ancestry, and other indicators of race).

230. Jones, *Shades of Brown*, *supra* note 229, at 1497.

ways in which a society construes . . . [and] attaches meaning” to these and other differences.²³¹ As Professor Ian F. Haney López notes, race is

a vast group of people loosely bound together by historically contingent, socially significant elements of their morphology and/or ancestry. . . . [It] is neither an essence nor an illusion, but rather an ongoing, contradictory, self-reinforcing process subject to the macro forces of social and political struggle and the micro effects of daily decisions.²³²

Importantly, race affects—and sometimes dictates—people’s lived, day-to-day realities. Individuals of the same race often share common experiences. Although not monolithic,²³³ these shared experiences are all connected to, and influenced by, the sociopolitical salience of race.

While many people have embraced the idea of race as a social construction, biological understandings of race continue to abound. Recent events, like mass shootings targeted at Black,²³⁴ Jewish,²³⁵ and Latinx communities,²³⁶ demonstrate that racism, fueled by white supremacist views erroneously grounded in biology, persists.²³⁷ In addition

231. *Id.* at 1493 n.15.

232. Ian F. Haney López, *The Social Construction of Race: Some Observations on Illusion, Fabrication, and Choice*, 29 *Harv. C.R.-C.L. L. Rev.* 1, 7 (1994); see also *Davis v. Guam*, 932 F.3d 822, 835 (9th Cir. 2019) (noting that “as a legal concept, a racial category is generally understood as a group, designated by itself or others, as socially distinct based on perceived common physical, ethnic, or cultural characteristics”).

233. Racial experiences are also shaped by gender, class, and sexuality, among other things. See generally Kimberle Crenshaw, *Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics*, 1989 *U. Chi. Legal Forum* 139 (examining the intersection of race and gender); Angela P. Harris, *Race and Essentialism in Feminist Legal Theory*, 42 *Stan. L. Rev.* 581 (1990) (same).

234. See, e.g., Jon Schuppe & Jamie Morrison, *Dylann Roof Sentenced to Death for Charleston Church Massacre*, NBC News (Jan. 10, 2017), <https://www.nbcnews.com/storyline/charleston-church-shooting/dylann-roof-sentenced-death-charleston-church-massacre-n705376> [<https://perma.cc/TX2C-36JF>] (last updated Jan. 11, 2017).

235. See, e.g., Dakin Andone, Jason Hanna, Joe Sterling & Paul P. Murphy, *Hate Crime Charges Filed in Pittsburgh Synagogue Shooting that Left 11 Dead*, CNN (Oct. 29, 2018), <https://www.cnn.com/2018/10/27/us/pittsburgh-synagogue-active-shooter/index.html> [<https://perma.cc/Y6JK-NK5C>].

236. See, e.g., Cedar Attanasio, Jake Bleiberg & Paul J. Weber, *Police: El Paso Shooting Suspect Said He Targeted Mexicans*, AP News (Aug. 9, 2019), <https://www.apnews.com/456c0154218a4d378e2fb36cd40b709d> [<https://perma.cc/GRM2-EM36>].

237. See, e.g., Hannah Allam, *El Paso Mass Shooting Meant to Galvanize Other White Nationalists*, NPR (Aug. 10, 2019), <https://www.npr.org/2019/08/10/750172227/el-paso-mass-shooting-meant-to-galvanize-other-white-nationalists> [<https://perma.cc/KHG2-9RKU>]; Lois Beckett, *More than 175 Killed Worldwide in Last Eight Years in White Nationalist-Linked Attacks*, Guardian (Aug. 4, 2019), <https://www.theguardian.com/us-news/2019/aug/04/mass-shootings-white-nationalism-linked-attacks-worldwide> [<https://perma.cc/A4N7-SWC6>]; Editorial, *We Have a White Nationalist Terrorist Problem*, N.Y. Times (Aug. 4, 2019), <https://www.nytimes.com/2019/08/04/opinion/mass-shootings-domestic-terrorism.html> (on file with the *Columbia Law Review*).

to individual acts of racialized violence, biological race can be employed on a macro level to justify gross racial inequities in housing, education, employment, income, wealth, and health care, among other areas. The argument is that if nature created racial hierarchy and resulting inequities, then policy interventions cannot—and presumably should not attempt to—disrupt them.²³⁸ In short, American society has not yet jettisoned a biological understanding of race or a reliance on science to justify separation, exclusion, violence, subordination, and other denials of human rights.

* * *

Modern accounts recognize that race is inherently and inseparably tied to social context. The problem with genetic race is that it conflates genetic ancestry with socially constructed racial categories and attendant experiences. Yet, contemporary understandings of race reflect more than some distant, centuries-old connection to a geographical place.²³⁹ Indeed, as we discuss above,²⁴⁰ race has a particular history in the United States. Courts and other lawmakers have strategically deployed race to justify, among other things, the capture and enslavement of African people and the system of Jim Crow segregation that continued well into the twentieth century. This history informs contemporary understandings of race in the United States. Genetic race leaps right over this layered, contextualized history and attempts to replace it with another simplistic, biological conception of race, this time based not on skull circumference but on the results of DNA ancestry tests. We discuss the social implications of genetic race below.

III. RACIAL ASYMMETRY, RACIAL FRAUD, AND CULTURAL APPROPRIATION

In addition to fueling harmful and antiquated notions of biological race, DNA ancestry tests reinforce white racial privilege and racial hierarchies in other, more subtle ways. This Part begins by exposing a curious asymmetry in terms of who has access to DNA-based racial fluidity. It then considers how genetic race may lead to accusations of “racial fraud” or “cultural appropriation.” Finally, this Part responds to the argument that multiracialism, as demonstrated by DNA ancestry tests, will end, or at least ameliorate, racism.

238. For discussion of historical uses of this argument, see Roberts, *Fatal Invention*, *supra* note 59, at 24, 42.

239. Bolnick et al., *supra* note 4, at 400 (“Current understandings of race and ethnicity reflect more than genetic relatedness, though, having been defined in particular sociohistorical contexts (i.e., European and American colonialism). In addition, social relationships and life experiences have been as important as biological ancestry in shaping individual identity and group membership.”).

240. See *supra* section II.A.

A. *Racial Asymmetry*

A one-sidedness to the process of genetic self-discovery exists. Whites are much more likely than nonwhites to change their racial identity based upon DNA ancestry test results—and they do so based upon a small percentage of sub-Saharan ancestry.²⁴¹ Moreover, whites who change their identities do not act randomly. In their examination of test takers, Roth and Ivemark found that white test takers were more likely to embrace a new racial identity when they perceived that identity as beneficial.²⁴² Thus, some whites adopted a nonwhite identity when it offered economic opportunities.²⁴³ Others acted when they believed their new identity might facilitate cross-racial interactions.²⁴⁴ Still others embraced a new racial identity as a means of adding more interest to what they perceived as an otherwise “bland” racial identity.²⁴⁵

People of color, by contrast, are much less likely to change their racial identity based on DNA ancestry test results.²⁴⁶ As Roth and Ivemark note, “[b]ecause African-American and Latino identities historically incorporated racial mixture, they contain a *subsumed multiraciality*—an

241. See, e.g., Roth & Ivemark, *supra* note 5, at 164 (finding among survey participants that “[t]hose who identified as only white before testing were the most likely to incorporate geneticized identities (52%), while those who identified as only black before testing were the least likely (17%)”). Gender may also affect the way in which test takers perceive results. One study found that forty-three percent of female test takers surveyed were excited when test results revealed African ancestry whereas only ten percent of male test takers surveyed viewed this information positively. Sharon Kirkey, *Are Genetic Ancestry Tests Reinforcing Wrongheaded Ideas of Race?*, *Nat’l Post* (Apr. 2, 2018), <https://nationalpost.com/news/world/are-genetic-ancestry-tests-reinforcing-wrongheaded-ideas-of-race> [<https://perma.cc/5CFD-CGYF>] (last updated Apr. 3, 2018).

242. See Roth & Ivemark, *supra* note 5, at 172.

243. See Antonia Noori Farzan, *A DNA Test Said a Man Was 4% Black. Now He Wants to Qualify as a Minority Business Owner.*, *Wash. Post* (Sept. 25, 2018), <https://www.washingtonpost.com/news/morning-mix/wp/2018/09/25/a-dna-test-said-he-was-4-black-now-he-wants-to-qualify-as-a-minority-business-owner> (on file with the *Columbia Law Review*) (discussing Ralph Taylor’s case).

244. See Roth & Ivemark, *supra* note 5, at 179 (“Adopting new geneticized identities may shape social networks and racial interactions.”). This may explain a recent interaction between one of the authors of this Essay and a DNA ancestry test taker. While standing in line to enter an entertainment venue, the test taker initiated a conversation with the author by proclaiming—without solicitation—“I am Black!” Though he had always identified as white, his 23andMe test results triggered this spontaneous announcement to a stranger. He showed the author the 23andMe analysis, which reported he possessed 1% West African ancestry. Interview with S. Davis, in Wilmington, N.C. (July 21, 2018) (recording on file with authors).

245. Roth & Ivemark, *supra* note 5, at 172.

246. *Id.* at 164. Professor Roberts points out that when Black Americans incorporate genetic data into their conceptions of self, this process is generally not reductionist. Roberts notes that Black Americans “embed test results in the family history they have already begun to construct, interpret them to fit their political and spiritual viewpoints, and integrate them into their collective customs,” instead of equating genetic data with race and basing their identity solely on this data. Roberts, *Fatal Invention*, *supra* note 59, at 252–53.

understanding that the identity already comprises multiple racial ancestries.”²⁴⁷ Thus, affirmation of this general knowledge may be of no real moment for these individuals. What may be of interest to Black Americans, however, is greater genealogical specificity. Because much ancestral information was lost or destroyed during the transatlantic slave trade and the period of chattel slavery, some Black Americans may have a keen interest in reconstructing this lost history and these severed connections.²⁴⁸ They may, thus, turn to DNA ancestry tests to fill in these important gaps.

While DNA ancestry tests may provide information about continental origin or biogeographic ancestry, we maintain that for Black as well as for white people, these tests are not synonymous with race. Indeed, as Part I demonstrates, the tests are less likely to accurately predict genetic ancestry for people with non-European ancestry due to a lack of diversity in company databases.²⁴⁹ However, even if the tests were 100% accurate, DNA

247. Roth & Ivemark, *supra* note 5, at 152. Roth and Ivemark continue by noting that “[a]s a result, African-American and Hispanic/Latino respondents typically believe that new ancestries do not challenge their previous identities. Many nonwhite respondents also express cultural and political motivations for maintaining their pretest identifications.” *Id.* See also Roberts, *Fatal Invention*, *supra* note 59, at 230 (“Most African Americans are not interested in finding out what race they are—they are pretty sure they are black and that there is racial mixing somewhere in their heritage.”); Caroline Randall Williams, *You Want a Confederate Monument? My Body Is a Confederate Monument*, *N.Y. Times* (June 26, 2020), <https://www.nytimes.com/2020/06/26/opinion/confederate-monuments-racism.html> (on file with the *Columbia Law Review*) (powerfully examining the history of miscegenation and rape within the author’s family and within the Confederacy more generally).

248. See Roberts, *Fatal Invention*, *supra* note 59, at 232 (“The chance to regain their lost ancestry has struck a deep chord with many black Americans in particular.”); Bolnick et al., *supra* note 4, at 399 (explaining that some individuals who undergo DNA ancestry testing “are searching for a connection to specific groups or places in Eurasia or Africa” and that “[t]his search for a ‘homeland’ is particularly poignant for many African-Americans, who hope to recapture a history stolen by slavery”). Professor Roberts notes that Black Americans have difficulty tracing their lineage to periods prior to the 1870 U.S. census using conventional genealogical tools because “[b]irth certificates, marriage documents, and other evidence of [their ancestors’ lives] in America are scarce.” Roberts, *Fatal Invention*, *supra* note 59, at 230. In addition, she points out that tracing their lineage back to Africa is “virtually impossible” because “[r]ecords were rarely kept of the names, much less the origins, of Africans who were captured by slave sellers and forcibly shipped to the Americas.” *Id.* For an excellent examination of the ways in which Black Americans are utilizing genetic genealogy tests, see generally Nelson, *supra* note 4, at 157–66. Dr. Alondra Nelson documents the ways in which “[g]enetic analysis is . . . increasingly being used as a catalyst for reconciliation—to restore lineages, families, and knowledge of the past and to make political claims in the present,” but cautions that “the issues, controversies, and questions we pose to science about race and the unsettled past can never find resolution in the science itself.” *Id.* at 6, 164.

249. See *supra* notes 96–100 and accompanying text; see also Roberts, *Fatal Invention*, *supra* note 59, at 245–49 (describing how database limitations affect the accuracy of test results).

ancestry test results should not be conflated with race because, as section II.B explains, race is socio-political, not biological.²⁵⁰

The comparative use of DNA ancestry tests by whites and Blacks reveals another interesting difference. DNA ancestry tests can also reveal or affirm genealogical ties to Western Europe. Yet, as we mention above, it is unlikely that Black people would identify as white if tests indicated that a small percentage of their DNA traced back to Western Europe. Indeed, even if they desired to do so, their claims to whiteness would likely be treated as farcical, especially if their previously self-identified race or observed race conflicts with their newly adopted genetic race. For example, if Stacey Abrams were to proclaim that she was white based upon a DNA ancestry test that revealed eighteen percent of her ancestry traced back to Western Europe, many people would summarily dismiss her claim. This skepticism likely reflects the heavy influence of the one-drop rule and/or the salience of physical characteristics like skin color, hair texture, and facial features in assigning race.²⁵¹

In sum, in the context of genetic race, the continued use of the rule of hypodescent produces an asymmetry and instantiates the existing racial hierarchy. As seen with Ralph Taylor and Cleon Brown, “one drop” of African ancestry supports whites’ claims to Blackness.²⁵² However, one drop of European ancestry, per DNA ancestry test results, does not render white a person whose previously self-identified or observed race was Black. As has long been the case in the United States, it remains easier to be assigned a subordinate rather than a privileged status. In other words, one can more easily move down—rather than up—the U.S. racial hierarchy.²⁵³

250. See also Roberts, *Fatal Invention*, supra note 59, at 252–57 (arguing that Black racial identity and Black solidarity should not rest upon “genetic kinship” but rather on “black people’s distinctive collective experience of creatively resisting racial oppression in the United States”).

251. See generally Christine B. Hickman, *The Devil and the One Drop Rule: Racial Categories, African Americans, and the U.S. Census*, 95 Mich. L. Rev. 1161 (1997) (discussing the origins of the U.S. system of racial classification). During the period of chattel slavery, the rule served not only to bolster the Southern economy by increasing the number of enslaved persons but also to maintain a system of white racial purity and superiority in the United States. See id. at 1174–79.

252. See supra notes 9–20 and accompanying text. Indeed, Taylor and others have expressly endorsed the rule of hypodescent and have sought to apply it to support their newly acquired nonwhite racial identities. While Taylor relied upon his DNA ancestry test results, some individuals have simply invoked a vague reference to an unknown ancestor. See Katie Shepherd, ‘I’m a Black Male’: Miami Police Captain Admits Changing Race Designation from White to Black, *Wash. Post* (Jan. 21, 2020), <https://www.washingtonpost.com/nation/2020/01/21/ortiz-cop-black> (on file with the *Columbia Law Review*) (“‘I learned there are people in my family that are mixed and that are black,’ Ortiz said. ‘And if you know anything about the “one-drop rule” . . . you would know if you have one drop of black in you, you are considered black. You’re probably black, too.’” (quoting Miami Police Captain Javier Ortiz)).

253. See generally Cheryl I. Harris, *Whiteness as Property*, 106 Harv. L. Rev. 1707 (1993) [hereinafter Harris, *Whiteness as Property*] (arguing that whiteness has both material and

Access to whiteness remains elusive, and white identity continues to be more difficult to assume than nonwhite racial identities.

A recent *Portlandia* episode used the reality of the one-drop rule for comedic effect.²⁵⁴ In the episode, Portland's eccentric mayor bemoans a headline dubbing his fair city the least diverse in America.²⁵⁵ In an attempt to comfort the mayor, his colleague Fred mentions DNA ancestry tests, explaining: "They're great. They tell you where you're from like down to a percentage. . . . Hardly anyone is 100% European."²⁵⁶ The mayor then proceeds to test the entire city of Portland to prove that, contrary to the headline, Portland is in fact diverse.²⁵⁷ In a ceremony following the mass testing, the mayor proudly declares, "You know, before DNA testing, we were 75% white. And now there is scarcely a white person in the entire city of Portland. We are more diverse than New York City or even Detroit."²⁵⁸ Fred reads aloud the results of one citizen who appears to be a white male: "Judd's genetic breakdown is 98% Northern European, 1% broadly European, 0.5% Ashkenazi Jew . . . 0.25% African, and 0.25% other."²⁵⁹ "0.25% African. I'm Black!" gasps Judd.²⁶⁰ The audience applauds approvingly.²⁶¹ A beatific smile passes across the mayor's face and he declares, "Well, we lost another white person. But the melting pot continues to grow."²⁶²

B. *Racial Fraud and Cultural Appropriation*

When someone assumes a new racial identity solely based upon DNA ancestry test results, allegations of cultural appropriation or racial fraud may arise.²⁶³ For example, in the same *Portlandia* episode, Carrie, a

psychological value to many whites, and that some whites will vigilantly guard against extending its privileges to others).

254. See *Portlandia: Most Pro City* (IFC television broadcast Mar. 21, 2018). *Portlandia* is a sketch comedy television series, starring Fred Armisen and Carrie Brownstein, which parodies life in Portland, Oregon. See *id.*

255. See *id.*

256. *Id.*

257. See *id.*

258. *Id.*

259. *Id.*

260. *Id.*

261. *Id.*

262. *Id.*

263. Social scientists have worked for decades to develop a definition of cultural appropriation. One frequently cited definition is "the taking—from a culture that is not one's own—of intellectual property, cultural expressions or artifacts, history and ways of knowledge." Bruce Ziff & Pratima V. Rao, Introduction to Cultural Appropriation: A Framework for Analysis, in *Borrowed Power: Essays on Cultural Appropriation* 1, 1 (Bruce Ziff & Pratima V. Rao eds., 1997) (internal quotation marks omitted) (quoting Writers' Union of Canada, Resolution (1992)); see also Angela R. Riley & Kristen A. Carpenter, *Owning Red: A Theory of Indian (Cultural) Appropriation*, 94 *Tex. L. Rev.* 859, 863 (2016) (adopting Ziff and Rao's definition of cultural appropriation); Madhavi Sunder, *Intellectual Property and Identity Politics: Playing with Fire*, 4 *J. Gender Race & Just.* 69, 73 (2000)

character who also appears white, attends a reception wearing a kimono paired with a sombrero. Carrie explains, “I wouldn’t have worn this a week ago. That would have been offensive, but, you know, I just wanted to acknowledge my heritage.”²⁶⁴

The issue, of course, extends beyond art or fiction. Accusations of racial fraud and cultural appropriation have attended white individuals who, in recent years, have claimed a Black racial identity.²⁶⁵ For example, in September 2020, Jessica Krug, a historian at George Washington University, admitted to having lied about her race for her entire professional career.²⁶⁶ Krug, who is white and Jewish, claimed several Black identities, including “North African Blackness, then US rooted Blackness, then Caribbean rooted Bronx Blackness.”²⁶⁷ She also characterized her background as poor, donned a fake accent, and claimed to be an expert in diasporic dance.²⁶⁸ Similarly, in June 2015, Rachel Dolezal, who changed her racial identification from white to Black, was outed as white.²⁶⁹ Dolezal, who was an adjunct lecturer and the president of a local

(“Cultural appropriation is a term used to describe the phenomenon of culture traveling in the opposite direction” (internal quotation marks omitted)). Cultural appropriation is defined by power and use; thus, questions regarding appropriation must always focus on who is doing the appropriation, and to what end. See Naomi Mezey, *The Paradoxes of Cultural Property*, 107 *Colum. L. Rev.* 2004, 2044 (2007). A focus on power and use helps to distinguish cultural appropriation from cultural appreciation. Common definitions of fraud include unjustifiably or falsely claiming, or being credited with, accomplishments or qualities. See *Fraud*, *Lexico*, <https://www.lexico.com/en/definition/fraud> [<https://perma.cc/37FG-6CNW>] (last visited Oct. 11, 2020). By racial fraud, we mean the adoption of a racial identity that is not your own.

264. Portlandia, *supra* note 254.

265. Professors Khaled Beydoun and Erika Wilson term this phenomenon reverse passing. Khaled A. Beydoun & Erika K. Wilson, *Reverse Passing*, 64 *UCLA L. Rev.* 282, 288 (2017) (“Reverse passing . . . is the process by which whites shed their white racial identity in exchange for a nonwhite racial identity.”).

266. Michael Levenson & Jennifer Schuessler, *University Investigates Claim that White Professor Pretended to Be Black*, *N.Y. Times* (Sept. 3, 2020), <https://www.nytimes.com/2020/09/03/us/jessica-krug-gwu-race.html> (on file with the *Columbia Law Review*) (last updated Sept. 9, 2020); Lauren Lumpkin & Susan Svrluga, *White GWU Professor Admits She Falsely Claimed Black Identity*, *Wash. Post* (Sept. 3, 2020), <https://www.washingtonpost.com/education/2020/09/03/white-gwu-professor-admits-she-falsely-claimed-black-identity> (on file with the *Columbia Law Review*). Since Krug’s disclosure, a graduate student at the University of Wisconsin at Madison has also been exposed for passing for Black. Colleen Flaherty, *More White Lies, Inside Higher Ed* (Sept. 10, 2020), <https://www.insidehighered.com/news/2020/09/10/more-allegations-racial-fraud-academe> [<https://perma.cc/XBM6-5U5V>].

267. Jessica A. Krug, *The Truth, and the Anti-Black Violence of My Lies*, *Medium* (Sept. 3, 2020), <https://medium.com/@jessakrug/the-truth-and-the-anti-black-violence-of-my-lies-9a9621401f85> [<https://perma.cc/9R8F-2B43>].

268. See *supra* note 266.

269. Rachel Dolezal is a civil rights activist who was raised white, but later secretly passed for years as Black. See Dana Ford & Greg Botelho, *Who is Rachel Dolezal?*, *CNN* (June 17, 2015), <https://www.cnn.com/2015/06/16/us/rachel-dolezal/index.html> [<https://perma.cc/747P-UTZZ>]; Richard Pérez-Peña, *Black or White? Woman’s Story Stirs Up a Furor*, *N.Y.*

chapter of the NAACP, had tanned her skin, donned hairstyles traditionally associated with Black women, and fabricated a personal narrative rooted in poverty and abuse.²⁷⁰ Both Krug and Dolezal are said to have benefitted from their racial passing through the establishment of personal and professional networks and the garnering of other professional opportunities.²⁷¹

Although Krug and Dolezal did not ground their claims to Blackness in a DNA ancestry test, in many ways their cases raise issues similar to those raised by Cleon Brown, Ralph Taylor, and Senator Elizabeth Warren.²⁷² Are these individuals engaging in racial fraud? Moreover, if they alter their identity performance when they change their identity, are they donning something akin to blackface (i.e., performing a caricatured version of what they think it means to be a member of one of these groups)?²⁷³

In the case of Senator Warren, the Cherokee Nation certainly objected to Warren's assertion of Native American ancestry. In a heartfelt op-ed, Chuck Hoskin Jr., the Secretary of State for the Cherokee Nation,²⁷⁴ explained:

While we appreciate the affinity many Americans have for the family lore of native ancestry, stating, “My grandmother was Cherokee” or citing vague results of a consumer DNA test do us harm and in no way confers the full rights and responsibilities of

Times (June 12, 2015), <https://www.nytimes.com/2015/06/13/us/rachel-dolezal-naACP-president-accused-of-lying-about-her-race.html> (on file with the *Columbia Law Review*); Lisa Respers France, Rachel Dolezal on Being Black: ‘I Didn’t Deceive Anybody’, CNN (July 20, 2015), <https://www.cnn.com/2015/07/20/us/rachel-dolezal-vanity-fair-feat> [<https://perma.cc/9SNT-2CDN>].

270. Beydoun & Wilson, *supra* note 265, at 286–87.

271. Osamudia James, What Rachel Dolezal Doesn’t Understand: Being Black Is About More than Just How You Look, Wash. Post (June 12, 2015), <https://www.washingtonpost.com/posteverything/wp/2015/06/12/what-rachel-dolezal-doesnt-understand-being-black-is-about-more-than-just-how-you-look> (on file with the *Columbia Law Review*); Levenson & Schuessler, *supra* note 266.

272. Importantly, although Warren claimed Native American ancestry, she did not make a tribal membership claim. See Joe Perticone, Elizabeth Warren Addresses DNA Test and Native American Heritage During Iowa Trip: ‘Tribal Citizenship Is Very Different from Ancestry’, Bus. Insider (Jan. 5, 2019), <https://www.businessinsider.com/elizabeth-warren-addresses-native-american-dna-test-in-iowa-tribal-citizenship-is-very-different-from-ancestry-2019-1> [<https://perma.cc/W2VC-QLW4>].

273. Blackface, of course, is more than caricature. See Janelle Bouie, Opinion, Blackface Is the Tip of the Iceberg, N.Y. Times (Feb. 4, 2019), <https://www.nytimes.com/2019/02/04/opinion/northam-blackface-racism.html> (on file with the *Columbia Law Review*) (discussing the role of blackface in bolstering racial subordination).

274. The Cherokee Nation has since elected Hoskin Jr. to principal chief. Lenzy Krehbiel-Burton, Chuck Hoskin Jr. Elected New Cherokee Chief, Vows to ‘Unify Cherokee People’ Following ‘Contentious’ Election Moments, Tulsa World (June 3, 2019), https://www.tulsaworld.com/news/state-and-regional/chuck-hoskin-jr-elected-new-choerokee-chief-vows-to-unify/article_eaa47bbc-82b1-50f3-a586-7494739ef913.html (on file with the *Columbia Law Review*).

tribal citizenship. . . . When someone boasts they are Native American due to the results of a DNA test, it perpetuates the general public's misunderstanding about what it means to be a tribal citizen We are citizens through historical documentation, adopted laws and a shared language and culture that make us unique.²⁷⁵

Professor Osamudia James seems to agree. When critiquing Rachel Dolezal's racial performance, James notes:

[T]he experience of blackness . . . often includes subtle, but more indelible, phenomena: the learning, as a child, of racial narratives of inferiority; the frustration of navigating a society where education about white supremacy (and how it intersects with gender, class and other constructs) is withheld; the labor of black caregivers who cultivate resiliency and pride in their little ones despite the experience of racial struggle [Black people's] resilience is borne out of childhood that yes, presents challenges and exposes us to stigma, but also results in a lived, day-to-day racial experience that enriches our lives and informs the world; an experience to which Dolezal may not fraudulently lay claim, whether or not people believed her farce.²⁷⁶

James and Hoskin are both asserting that race involves more than a questionable connection to a geographical space or a tenuous link to some unknown, distant ancestor. Race is shaped by historical and sociopolitical context as well as cultural forces. These combined forces result in a lived, racial experience that cannot be put on and taken off at whim.

This reasoning extends to Ralph Taylor's case. The reader will recall that after receiving DNA ancestry test results estimating that he was ninety percent Caucasian, six percent indigenous American, and four percent sub-Saharan African, Taylor applied for certification as a disadvantaged business enterprise (DBE) under a federal affirmative action program²⁷⁷ that was developed to increase access to government-funded contracts by socially and economically disadvantaged individuals.²⁷⁸ Taylor submitted

275. Chuck Hoskin Jr., Opinion, Chuck Hoskin Jr.: Elizabeth Warren Can Be a Friend, but She Isn't a Cherokee Citizen, *Tulsa World* (Jan. 31, 2019), https://www.tulsaworld.com/opinion/columnists/chuck-hoskin-jr-elizabeth-warren-can-be-a-friend-but/article_8c4b4d62-15be-536d-bb96-f33368a4488b.html (on file with the *Columbia Law Review*). Hoskin also presumably took issue with Trump's mockery of Warren, noting: "Likewise, when someone disparages someone else's family lore by dismissively calling them names or using negative stereotypes about Native Americans, that robs us all of an opportunity to have a meaningful discussion." *Id.*

276. James, *supra* note 271.

277. Taylor sought certification under both the State of Washington and the federal government's DBE program. *Orion Ins. Grp. v. Wash. State Off. of Minority & Women's Bus. Enters.*, No. 16-5582 RJB, 2017 WL 3387344, at *1-2 (W.D. Wash. Aug. 7, 2017), *aff'd*, 754 F. App'x 556 (9th Cir. 2018). His state certification was initially denied, but was voluntarily reversed after Taylor appealed the decision. *Id.* at *2.

278. *Id.* at *1-3. The federal government defines socially disadvantaged individuals as "those who have been subjected to racial or ethnic prejudice or cultural bias within American society because of their identities as members of groups and without regard to

the following materials in support of his application: (1) an affidavit in which he identified himself as Black American and Native American;²⁷⁹ (2) his DNA ancestry test results; (3) a copy of his Washington State driver's license, which included his picture; (4) his birth certificate, which did not state his race (although his parents are listed as "Caucasian"); (5) a letter from Taylor's father to an unknown entity, dated approximately three years before his application, requesting that Taylor's birth certificate be changed to reflect that he is "Caucasian, African, and American Indian"; (6) the results of Taylor's father's DNA ancestry tests, which estimated that his father was forty-four percent European, forty-four percent sub-Saharan African, and twelve percent East Asian; and (7) a 1916 death certificate for a woman from Virginia, Eliza Ray, identified as "Negro," but with no supporting documentation to indicate she was one of Taylor's ancestors.²⁸⁰

The State of Washington challenged Taylor's racial identification as Black, asking that he submit additional documentation supporting his claimed identity.²⁸¹ In response, Taylor submitted a letter in which, among other things, he asserted that his new racial identity was based on his DNA ancestry test results, his membership in the NAACP, his subscription to *Ebony* magazine, and his "great interest in Black social causes."²⁸² Taylor also stated that based on family names and a timeline that he had constructed, an "inference [could] be made" that he and Eliza Ray were maternally related.²⁸³ Finally, while acknowledging that he did not know how he was perceived in the relevant communities, Taylor submitted letters from two individuals who stated that they viewed him as a person of mixed race or mixed heritage.²⁸⁴ Neither of these individuals indicated with which racial group they or Taylor identified.²⁸⁵ The State

their individual qualities. Social disadvantage must stem from circumstances beyond their control." 49 C.F.R. pt. 26, app. E (2019). Under the DBE, women and racial minorities are presumed to be "socially and economically disadvantaged." *Id.* § 26.67(a)(1). This presumption is rebuttable. *Id.* §§ 26.63, 26.67(b).

279. *Orion Ins. Grp.*, 2017 WL 3387344, at *2. Interestingly, in his request for certification under the Washington state program, Taylor identified himself as Black, but not Native American. *Id.*

280. *Id.*

281. *Id.* at *3. Under the federal DBE program, recipients of federal funds (in this case the State of Washington) may certify a firm's eligibility for the federal program. *Id.* at *2. Thus, although Taylor's certification was for the federal DBE program, the State of Washington was initially charged with rendering a decision on his application. *Id.*

282. *Id.* at *3. Taylor conceded that he had no documentation to support his claimed Native American identity. *Id.*

283. *Id.*

284. *Id.*

285. *Id.*

subsequently denied Taylor's requested certification.²⁸⁶ A federal district court upheld this determination, which was affirmed on appeal.²⁸⁷

The problem with Taylor's claim to a Black racial identity is that he seemingly pulled it out of thin air. Although there are many markers of racial identity,²⁸⁸ Taylor could not produce persuasive evidence that would ground his claim to Blackness in any of them. He had no immediate ancestors who were Black; he had no lived experience as a Black person; and indeed he had held himself out for most of his life as white.²⁸⁹ Taylor also could not show that he was regarded as Black by the community, and he had none of the physical indicators that are frequently associated with Blackness (e.g., a brown skin tone, or kinky hair). In short, his claim to Blackness seemed cut from whole cloth, manufactured—one might presume—to allow Taylor to participate in the DBE program, a program designed to redress historic discrimination experienced by people of color, women, and economically disadvantaged individuals.²⁹⁰

In addition to a lack of persuasive support for his claimed racial identity, Taylor's racial switch is problematic for several other reasons. First, it trivializes or downplays the racialized experiences of Black people.²⁹¹ As James notes, being Black is filled with meaning, including benefits and challenges.²⁹² And in the United States, where racism is endemic, the challenges are considerable.

Second, to use a DNA ancestry test to assert a nonwhite identity, either on a whim or for strategic purposes, smacks of white privilege.²⁹³ As noted

286. *Id.*

287. *Orion Ins. Grp. v. Wash. State Off. of Minority & Women's Bus. Enters.*, 754 F. App'x 556, 558–59 (9th Cir. 2018) (finding that “OMWBE did not act in an arbitrary and capricious manner when it determined it had a ‘well founded reason’ to question Taylor's membership claims”).

288. See *supra* notes 228–230 and accompanying text.

289. *Orion Ins. Grp.*, 2017 WL 3387344, at *2.

290. See *id.* at *1 (noting that in establishing and reauthorizing the DBE program, Congress considered and documented the discriminatory hurdles that women and racial minorities face in securing transportation contracts).

291. See James, *supra* note 271.

292. See *id.* (describing the day-to-day challenges of navigating the experience of Blackness in a society where racial narratives of inferiority and a lack of awareness about white supremacy are commonplace).

293. Broadly speaking, “white privilege” refers to the myriad advantages that white people possess based on their race in a society characterized by racial inequality and racial injustice. See generally Peggy McIntosh, *White Privilege: Unpacking the Invisible Knapsack*, *Peace & Freedom*, July–Aug. 1989, at 10, 10–12 (detailing specific examples of privileges the author experienced as a result of being white). White privilege is often said to include the ability not to see oneself as having a race or to not have to think about race. See Barbara J. Flagg, “Was Blind, But Now I See”: White Race Consciousness and the Requirement of Discriminatory Intent, 91 *Mich. L. Rev.* 953, 969–70, 973–74 (1993) (describing the “transparency phenomenon” or the “tendency for whiteness to vanish from whites’ self-perception”). In the context of this Essay, white privilege might also include the privilege of not having to think about other people's race and what it means to be a person of color.

earlier, in a social context where whiteness and Blackness are not equivalent, this sort of racial fluidity is generally only available to those who phenotypically appear and identify as white.²⁹⁴ Like a one-way street, whites can claim Blackness, but Blacks cannot readily claim whiteness based upon DNA ancestry test results alone.²⁹⁵ Concerns about white privilege are aggravated by a sense that changes in racial identification by whites based on DNA ancestry test results are strategic, situational, and largely without negative consequence. Professor Wendy Roth notes that when white people discover a new racial identity through DNA testing, “[t]hey can try it on, mention it when it’s to their advantage and ignore it otherwise.”²⁹⁶ And they rarely completely abandon their white identity.²⁹⁷ Thus, choosing to identify as Black does not carry the same consequences for whites as it does for nonwhite people. Roth observes that this “can really lead whites in particular to think that race is like that for everyone.”²⁹⁸ This assumption can be frustrating for individuals who lack the same racial fluidity. As one of the author’s students recently observed, whites who strategically change their race based on DNA ancestry tests “get the benefits of Blackness, but none of the harms.”²⁹⁹

It is important to note what we are not arguing here. We are not trying to police racial boundaries or to assert that henceforth all individuals must prove their race. We have no wish to return to the days of race trials.³⁰⁰ We also are not asserting that all claims to Blackness must be grounded in a

Only by overlooking the pernicious history of racism in the United States and what this has meant and continues to mean for people of color can one wake up and decide, on thin evidence, “I am going to be Black.” Indeed, to claim an identity that is not your own—to steal another’s identity—is arguably the ultimate manifestation of white privilege.

294. See discussion *supra* section III.A.

295. Some Blacks have historically been able to pass as white. See Harris, *Whiteness as Property*, *supra* note 253, at 1710–13 (describing her grandmother’s experience with passing). But this ability was generally limited to those whose physical appearance was indistinguishable from whites and those who were not known to have Black ancestors or connections. *Id.* at 1710–11 (“[I]n the burgeoning landscape of urban America, anonymity was possible for a black person with ‘white’ features. . . . No longer immediately identifiable as [someone’s child,] she could thus enter the white world . . .”).

296. Ashifa Kassam, *Users of Home DNA Tests ‘Cherry Pick’ Results Based on Race Biases, Study Says*, *Guardian* (July 1, 2018), <https://www.theguardian.com/science/2018/jul/01/home-dna-test-kits-race-ethnicity-dna-ancestry> [<https://perma.cc/73GR-RG6E>] (internal quotation marks omitted) (quoting Wendy Roth).

297. See Anita Foeman, *DNA Tests, and Sometimes Surprising Results*, *N.Y. Times* (Apr. 23, 2017), <https://www.nytimes.com/2017/04/23/us/dna-ancestry-race-identity.html> (on file with the *Columbia Law Review*); see also *supra* notes 242–245 and accompanying text (discussing the strategic use of transracialism).

298. Kassam, *supra* note 296.

299. Comment from Jebriel Reeves, Third-Year Law Student, Duke L. Sch., in Durham, N.C. (Feb. 19, 2019).

300. Cf. Mary Ziegler, *What is Race?: The New Constitutional Politics of Affirmative Action*, 50 *Conn. L. Rev.* 279, 285 (2018) (“[R]elevant decision makers rely not only on skin color, but also on a variety of proxies—including class, education, place of residence, dress, voice, and name—in judging an individual’s racial identity.”).

particular lived experience, a particular phenotype, or an immediate Black ancestor. In the United States, race has not been constructed based solely on one variable.³⁰¹ In addition, we are not saying that society should not enjoy and benefit from cross-racial exchanges and collaboration. Such exchanges have inspired much artistic, scientific, and cultural innovation and creativity in this country.³⁰² What we are saying is that, in certain instances, the government must have the ability to screen for racial fraud and racial groups must be able to call out instances of racial fraud and cultural appropriation.

To be sure, difficult cases will arise. For example, is it fraudulent for a person whose mother is white and whose father is Black, and who has always identified as white, to change their racial identification to Black while in college? Is the wearing of a sombrero, a kimono, or a kente cloth by a white person the same as the wearing of braids and locs, the acquisition of lip and hip injections and suntans, or the situational donning of a Black accent? To a large extent, the answers to these questions will vary depending upon degree and context, and we leave it to others to develop context-specific analytical frameworks for determining when certain identity claims and actions are, or are not, problematic. Here, we maintain only that claims to racial identity should not be grounded solely in DNA ancestry test results.

C. *Counterarguments*

Might genetic race produce positive social effects? Some will contend that our rejection of genetic race is short-sighted, asserting DNA ancestry tests can disrupt the idea of innately distinct races by showing that most Americans are racially mixed.³⁰³ Per this argument, knowledge of racial

301. See *supra* section II.B.

302. See, e.g., Jiali Luo & David Jamieson-Drake, A Retrospective Assessment of the Educational Benefits of Interaction Across Racial Boundaries, 50 J. Coll. Student Dev. 67, 75, 78 (2009).

303. For example, Professors Jennifer Hochschild, Vesla Weaver, and Traci Burch argue that genomic science and multiraciality, among other factors, are revealing the heterogeneity within racial groups and that this knowledge will decrease the distance separating groups. Jennifer L. Hochschild, Vesla M. Weaver & Traci R. Burch, *Creating a New Racial Order: How Immigration, Multiracialism, Genomics, and the Young Can Remake Race in America* 7–9 (2012). Similarly, Professor Jennifer Wagner notes:

[T]he use of DNA ancestry testing may help us visualize just how antiquated our civil rights framework is today and challenge that framework enough to force individuals to be treated as such. Questioning how to categorize children of recent admixture, questioning the continued existences of social norms like the one-drop rule (hypodescent) and blood-quantum rules (hyperdescent), and questioning how to define individuals with complex proportional ancestry . . . might help us blur, both socially and genetically, these arbitrary categories.

Wagner, *supra* note 76, at 240–41. But see Hernández, *Multiracials and Civil Rights*, *supra* note 21, at 1–15 (examining and rejecting the argument that multiracialism will end racism

admixture will transform social discourse, break down barriers between racial groups, and lead to a wide-scale embrace of multiraciality in both public and private contexts. As is explained below, history belies the idea that racial mixture and racial fluidity will destroy racism and racial hierarchy.

Monoracialism—the idea that individuals descend from only one racial group—has never been the reality in the United States. Race mixing, both voluntary and involuntary, has occurred between whites, Blacks, Native Americans, and other racialized peoples since the colonial era.³⁰⁴ Thus, mixed-race people have always been among us. Interracial unions and any resulting offspring, however, threatened to undermine “white racial purity” and white hegemony in a society built upon white supremacy.³⁰⁵ Indeed, the presence of race mixing led colonial lawmakers to disapprove of miscegenation (at least between whites and Blacks)³⁰⁶ as early as 1622, only a few years after the first Africans arrived on North American shores.³⁰⁷ Despite these laws, whites and nonwhites continued to engage in interracial sex, which raised a question regarding the resulting status (enslaved or free) of the mixed-race offspring of free white men and enslaved women. Departing from traditional English rules of patrilineal descent, in which the status of the child always followed that of the father, colonists determined that, by law, the status of mixed-race children would follow that of the mother.³⁰⁸ In addition, legislatures passed statutes providing for the banishment of white women who married Black men and for the enslavement of their children.³⁰⁹ Anti-miscegenation laws and rules concerning biological descent flourished throughout the nineteenth

and that new legal frameworks are necessary to redress discrimination against multiracial persons).

304. See generally Kathy Russell, Midge Wilson & Ronald Hall, *The Color Complex: The Politics of Skin Color Among African Americans* 9–23 (1992) (chronicling the history of race mixing in the United States up to the Civil War); Joel Williamson, *New People: Miscegenation and Mulattoes in the United States* 6–14 (1995) (exploring Black–white unions in the United States from the colonial era to the end of the twentieth century).

305. See Russell et al., *supra* note 304, at 12 (“For slavery to gain moral acceptance, it was essential to keep the races apart.”).

306. *Id.* at 13. At this time, while colonial whites were not particularly concerned with the race mixing of Indians and Africans, “the rapid proliferation of White-Black race mixing . . . caus[ed] them great alarm.” *Id.* at 12.

307. See Russell et al., *supra* note 304, at 13 (“Most of these laws implied that Africans were a lower life form than Europeans; they proclaimed that sexual union between Whites and Blacks was twice as evil as fornication between two Whites, and that sex with Negroes was equivalent to bestiality.”); Hickman, *supra* note 251, at 1172–73 (discussing early efforts to prohibit interracial unions).

308. Russell et al., *supra* note 304, at 14 (noting that these laws “allowed, even encouraged, owners to increase slaveholdings through sexual misconduct”).

309. Hickman, *supra* note 251, at 1176.

century and continued to exist until at least the late 1960s in the United States.³¹⁰

The presence of mixed-race persons and attempts to erase their existence (by defining them as Black) are evidenced in other ways and at other points in U.S. history. For example, Professor Christine Hickman notes that in the mid-seventeenth century, “laws dealing with Negro slaves added the phrase ‘and mulattoes’ to ensure that mulattoes were subject to the same restrictions as Negroes.”³¹¹ In addition, she notes that in 1850, the U.S. Census began to count mulattoes separately from Blacks.³¹² However, by 1920, the Census Bureau “stopped counting ‘mulattoes’ and formally adopted the one drop rule.”³¹³ Critically, anti-miscegenation laws and a rule of hypodescent—the notion that one drop of Black blood makes you Black—would only be required in a social context where racial mixing was prevalent and deemed threatening.

As noted earlier, we posit that most Black Americans already recognize that racial groups in the United States are racially mixed.³¹⁴ Knowledge of the history of miscegenation and a rainbow of skin tones within communities of color support this conclusion. DNA ancestry test results affirming this general knowledge may be less consequential in changing Black Americans’ views of race than white Americans’ views.³¹⁵

In contrast, white Americans might tend to perceive their genealogies as exclusively European or white.³¹⁶ To the extent that whites in the United States are less aware of historical race mixing and its presence in their own families, ancestry test results may be revelatory.³¹⁷ However, a question remains as to whether this information will lead to increased understandings of institutional racism and a stronger commitment to

310. See *Loving v. Virginia*, 388 U.S. 1, 6 (1967) (noting that at the time of the decision, Virginia was one of sixteen states that prohibited and punished marriage based on racial classifications).

311. Hickman, *supra* note 251, at 1178–79.

312. *Id.* at 1182. Hickman notes that although some believed that mulattoes were superior to Blacks, the differentiation between Black and mulatto was not necessarily designed to elevate the stature of mixed-race individuals. *Id.* at 1184–86.

313. *Id.* at 1187 (citing 3 Bureau of the Census, U.S. Dep’t of Com., *Fourteenth Census of the United States Taken in the Year 1920: Population*, at 10 (1922)).

314. See *supra* note 247 and accompanying text.

315. Cf. Roberts, *Fatal Invention*, *supra* note 59, at 229 (“It is not clear, however, why genetic technologies would have any greater impact on racial inequality than the knowledge of racial intermixture we had without them.”).

316. See, e.g., Tara Bahrapour, *They Considered Themselves White, but DNA Tests Told a More Complex Story*, *Wash. Post* (Feb. 6, 2018), https://www.washingtonpost.com/local/social-issues/they-considered-themselves-white-but-dna-tests-told-a-more-complex-story/2018/02/06/16215d1a-e181-11e7-8679-a9728984779c_story.html (on file with the *Columbia Law Review*).

317. Of course, many whites are aware of this history. See Roberts, *Fatal Invention*, *supra* note 59, at 229 (“Surely, Southern slave owners were well aware that the children they fathered with enslaved women were racially mixed and intimately related to them. Yet their response was to pass laws guaranteeing that their offspring would have the status of slaves.”).

eradicating systemic racial inequities. That is to say, will test results and greater knowledge of society's multiraciality cause white test takers, and society more generally, to fundamentally rethink, among other things, their views on (1) racial profiling and other forms of racially biased policing; (2) systemic racial disparities in wealth, income, and access to education, health care, and housing; and (3) the need for remedial interventions like affirmative action and reparations?

We are skeptical. While racial affiliation (e.g., having a family member or a friend of a different race—or indeed, claiming to be a member of that race) may change some people's views of marginalized groups or subordinating structures, in others it may have no significant effect.³¹⁸ Indeed, some data suggest that advocates of multiracialism tend to make identity claims that are disconnected from demands to change the material conditions of those ravaged by racism.³¹⁹

We are also skeptical about whether DNA-driven changes in identity will eradicate or significantly reduce racism for another reason. Some will argue that our present moment has the potential to differ significantly from the past because instead of suppressing multiraciality, we have an opportunity to embrace it. This embrace, they will argue, will breakdown racial barriers. This contention, however, is undermined by historical and contemporary evidence in countries where racial mixing was widely practiced, publicly recognized, and explicitly encouraged.

For example, because of its racially mixed population, Brazil often touts itself as a racial democracy.³²⁰ However, during the nineteenth and twentieth centuries, Brazil, and several Latin American countries, adopted policies of “blanqueamiento,” in which the state deliberately sought to “whiten” its population by incentivizing European immigration and

318. Mary R. Jackman & Marie Crane, “Some of My Best Friends Are Black . . .”: Interracial Friendship and Whites' Racial Attitudes, 50 *Pub. Op. Q.* 459, 470–71 (1986) (determining that “black friends and acquaintances have almost no effect on whites' policy orientations towards blacks” according to survey data). But see Angela Onwuachi-Willig, *According to Our Hearts: Rhinelander v. Rhinelander and the Law of the Multiracial Family* 250–57 (2013) [hereinafter Onwuachi-Willig, *According to Our Hearts*] (discussing potential positive effects of interracial marriages on other family members).

319. See Hernández, *Multiracials and Civil Rights*, *supra* note 21, at 91–95. Professor Hernández explains that for multiracial activists, “the primary locus of multiracial discrimination is in any societal resistance to the assertion of multiracial identity.” *Id.* at 91. She notes that the problem is not that this approach “centers itself on identity,” but rather that these “claims are isolated from material inequality concerns with social hierarchy and group-based disparities.” *Id.* at 95.

320. Brazil frequently employs national identity to cloak racial differences (e.g., encouraging citizens' use of national descriptors such as “I am Brazilian” instead of racial descriptors to identify themselves). Eduardo Bonilla-Silva & David R. Dietrich, *The Latin Americanization of U.S. Race Relations: A New Pigmentocracy*, in *Shades of Difference: Why Skin Color Matters* 40, 43–46 (Evelyn Nakano Glenn ed., 2009) (noting that in Brazil and elsewhere “racial stratification systems operate . . . without races being officially acknowledged”).

encouraging race mixing between whites and people of color.³²¹ Despite the success of these policies in terms of achieving a whiter and more mixed-race society,³²² Brazil has an entrenched racial hierarchy,³²³ with whites on top and Blacks on the bottom. Indeed, today, Brazil experiences many of the same racial dynamics that we see in the United States: widespread discrimination against its Black population in law enforcement, employment, and access to health care and education, among other things.³²⁴

Rather than breaking down racial hierarchy, Professors Eduardo Bonilla-Silva and David R. Dietrich suggest that a growing mixed-race population may entrench it. In *The Latin Americanization of U.S. Race Relations*, the authors posit that the United States may be developing a three-tiered racial hierarchy similar to that which exists in Latin America:³²⁵ whites on top, a category of “honorary whites” in the middle,

321. Robert J. Cottrol, *The Long Lingered Shadow: Law, Liberalism, and Cultures of Racial Hierarchy and Identity in the Americas*, 76 *Tul. L. Rev.* 11, 63–64 (2001) (“Called ‘blanqu[e]amiento’ in the Spanish-speaking nations and ‘branqu[e]amiento’ in Brazil, the idea was to encourage the progressive whitening of national populations.” (citing Winthrop R. Wright, *Café Con Leche: Race, Class and National Image in Venezuela* 52–54 (1990))); see also John A. Powell, *Transformative Action: A Strategy for Ending Racial Hierarchy and Achieving True Democracy*, in *Beyond Racism: Race and Inequality in Brazil, South Africa, and the United States* 371, 378 (Charles V. Hamilton, Lynn Huntley, Neville Alexander, Antonio Sérgio Alfredo Guimarães & Wilmot James eds., 2001) (“[T]he Brazilian government encouraged racial intermixing to whiten the population and eliminate [B]lacks.”); Edward E. Telles, *Race in Another America: The Significance of Skin Color in Brazil* 28–29 (2004) [hereinafter *Telles, Race in Another America*] (describing whitening policies devised and implemented by Brazilian eugenicists). Unlike in the United States, racial mixing was encouraged in the eighteenth and nineteenth centuries in Brazil “because it was believed that white genetics were a ‘purifying’ agent that could cleanse the ‘corrupt’ or ‘tainted’ gene[s] of . . . [B]lack and Native population[s].” Sammy Lorena, “Blanqueamiento”: The Forced Racial Whitening of Brasil, *Kolor Komplex* (Jan. 21, 2017), <https://www.kolorkomplex.com/kolorkomplex-history/2017/1/3/the-blanqueamiento-the-forced-whitening-of-brasil> [https://perma.cc/4JPJ-76QF]. Yet, as Robert Cottrol points out, “[b]y the 1920s, a number of Latin American intellectuals began seeing the Afro-American and Indian elements of their national populations less as embarrassments to be explained away, and more as distinctive parts of their national identities.” Cottrol, *supra*, at 66; see also Telles, *Race in Another America*, *supra*, at 33 (noting that the 1933 publication of Gilberto Freyre’s *Casa Grande e Senzales* [The Masters and the Slaves] “transformed the concept of miscegenation from its former pejorative connotation into a positive national characteristic and the most important symbol of Brazilian culture”).

322. Tanya Katerí Hernández, *Colorism and the Law in Latin America—Global Perspectives on Colorism* Conference Remarks, 14 *Wash. U. Glob. Stud. L. Rev.* 683, 691 (2015).

323. See Edward Telles, *The Social Consequences of Skin Color in Brazil*, in *Shades of Difference: Why Skin Color Matters* 9, 10 (Evelyn Nakano Glenn ed., 2009) (explaining that while some refer to Brazil’s hierarchy as a color hierarchy because skin color performs the work of racial categories, the effects parallel the racial hierarchy of the United States).

324. Bonilla-Silva & Dietrich, *supra* note 320, at 40.

325. *Id.* at 42–44. Bonilla-Silva and Dietrich point out that

[b]ecause most colonial outposts were scarcely populated by Europeans, all these societies developed an intermediate group of browns, *pardos*, or *mestizos* that

and a nonwhite group or the “collective Black” on the bottom. Bonilla-Silva and Dietrich observe that most multiracial individuals will fall within the “honorary white category,” having some but not all the privileges of whites but escaping some of the disadvantages of the collective Black.³²⁶ Thus, rather than eliminating white supremacy, Bonilla-Silva and Dietrich argue that this triracial hierarchy will effectively maintain it. They conclude that “[w]hites will still be at the top of the social structure, but they will face fewer race-based challenges. . . . [H]onorary whites . . . will remain secondary, will still face discrimination, and will not receive equal treatment in society.”³²⁷ And “those at the bottom of the racial hierarchy will discover that behind the statement ‘We are all Americans’ hides a deeper, hegemonic way of maintaining white supremacy.”³²⁸ We fear that the phrase “We are all multiracial” could produce the same effects.

The work of Professor Tanya Katerí Hernández supports many of Bonilla-Silva and Dietrich’s conclusions. In *Multiracials and Civil Rights: Mixed-Race Stories of Discrimination*, Hernández examines historical and contemporary discrimination against mixed-race persons in the United States.³²⁹ Importantly, she shows that multiracial persons are primarily

buffered sociopolitical conflicts. Even though this group did not achieve the status of white anywhere, it nonetheless had a better status than the Indian or black masses and, therefore, developed its own distinct interest.

Id. at 44.

326. Bonilla-Silva and Dietrich observe that with the browning of America, whites may be incentivized to create this intermediate group of honorary whites to buffer racial conflict. See id. at 46–47. As honorary whites increase in number and social importance and become more vested in maintaining their distinction from the collective Black, Bonilla-Silva and Dietrich maintain that honorary whites are likely to embrace the rhetoric of colorblind racism and distance themselves from the opposition to or resentment of members of the collective Black. Id. at 59.

327. Id. at 60.

328. Id.

329. See Hernández, *Multiracials and Civil Rights*, supra note 21, at 6, 111 (“Although the claimants may personally identify as multiracial persons, they present allegations of public discrimination rooted in a bias against nonwhiteness that is not novel or particular to mixed-race persons Particularly noteworthy is the fact that it is multiracials of African ancestry who overwhelmingly file multiracial-identified racial-discrimination legal claims”); see also Tanya Katerí Hernández, “Multiracial” Discourse: Racial Classification in an Era of Color-Blind Jurisprudence, 57 Md. L. Rev. 97, 121–26 (1998) [hereinafter Hernández, *Multiracial Discourse*] (noting that a “middle tier” of racial classification can lead multiracial individuals to embrace a sense of white superiority, “notwithstanding their own consistent experiences of discrimination and prejudice”); Jones, *Shades of Brown*, supra note 229, at 1521–27 (casting doubt on whether multiracialism will end racial discrimination). Notably, mixed racial identity has not spared mixed-race persons from scornful and, at times, brutal treatment in contexts outside the United States. For example, being of mixed-racial identity did not spare Jews under the Nuremberg Laws, nor did it spare many Blacks in South Africa’s system of racial apartheid. See, e.g., Alan Cowell, South Africa’s ‘Coloreds’: A Group Torn Between Black and White Worlds, N.Y. Times (Sept. 11, 1985), <https://www.nytimes.com/1985/09/11/world/south-africa-s-coloreds-a-group-torn-between-black-and-white-worlds.html> (on file with the *Columbia Law Review*) (describing how mixed-race people in South Africa were labeled “colored” and

targeted for discrimination because of their nonwhiteness or Blackness.³³⁰ Indeed, she notes that some data suggest

that phenotype and known black ancestry are stronger drivers of multiracial discrimination than actual mixed-race status, inasmuch as multiracials of black and Asian ancestry encounter more racism than multiracials of white and Asian ancestry. This also parallels the greater rejection of black-white multiracial online date seekers as compared to Asian-white multiracials, and the greater resistance the public has to accepting multiracial identity when expressed by black-white multiracials as opposed to multiracials of other ancestries.³³¹

In short, multiracial identity does not obliterate racial distinctions and bias against nonwhites. Racism thrives amidst multiracialism. If being multiracial has not spared multiracials of discrimination, then proclaiming that we are all multiracial is unlikely to accomplish that end. Eliminating racism requires sustained attention to group-based hierarchies and a frontal attack on white supremacy.

* * *

Biological race has been used historically to suppress racial mixture in furtherance of white racial supremacy. Ironically, biological race in the form of genetic race is being used today to assert that Americans are so racially mixed that we are all one race and, therefore, recognition of racial classifications is itself problematic. Indeed, we should be colorblind.³³² We reject this move. As our analysis shows, whether biological race is used to suppress racial heterogeneity or to celebrate it, the end result is the same—the fortification, rather than the dismantling, of racial hierarchy.

IV. GENETIC RACE IN LAW AND POLICY

Despite the shameful historical uses of biological race Part II describes, courts and other policymakers may still be tempted to rely on DNA ancestry test results as proxies for race. This Part considers three contexts in which this may occur: (1) employment discrimination,

afforded different rights and privileges than white or Black citizens); U.S. Holocaust Mem'l Museum, Nuremberg Race Laws, Holocaust Encyc., <https://encyclopedia.ushmm.org/content/en/article/nuremberg-laws> [<https://perma.cc/G6BS-FZ6R>] (last updated Sept. 11, 2019) (“[Mixed-race individuals] enjoyed the same rights as ‘racial’ Germans, but these rights were continuously curtailed through subsequent legislation.”).

330. See Hernández, *Multiracial Discourse*, supra note 329, at 119 n.110 (“[T]he racism mixed-race persons experience flows from their connection to blackness, as opposed to their mixed-race status.”).

331. See Hernández, *Multiracials and Civil Rights*, supra note 21, at 94.

332. See *id.* at 101–10 (explaining how multiracial discourse has been used to challenge policies of inclusion in affirmative action litigation); see also Hernández, *Multiracial Discourse*, supra note 329, at 139–61 (describing the jurisprudential shift toward colorblindness and its disavowal of the social significance of race).

(2) race-conscious initiatives, and (3) immigration. While we acknowledge that discrimination on the basis of DNA ancestry test results may sometimes be legally actionable, we conclude that courts should not rely on genetic race exclusively—or even primarily—in any of these areas. Because DNA ancestry testing remains relatively new, some of our analysis is preliminary. It is, however, important to think about how various actors might use and respond to genetic race before any widespread practices or doctrinal developments take hold.

A. *Employment Discrimination*

An employer's "discovery" of an employee's previously unknown racial or ethnic identity may result in discriminatory treatment.³³³ A case against Merrill Lynch provides an illustrative example. There, a former broker alleged that he was on the management track at Merrill Lynch until he came under the supervision of a new manager. An arbitration panel found that upon learning of the broker's ethnicity, the new manager removed the broker from the management track and "basically sent [him] to a corner to eventually be terminated."³³⁴

A similar dynamic may occur in cases involving DNA ancestry test results. Recall Sergeant Cleon Brown.³³⁵ Prior to sharing his DNA test results, nothing suggests that Brown had ever been subject to any form of racial hostility or ridicule by his colleagues. Yet, after he disclosed his results, Brown's colleagues allegedly responded in a racially hostile manner, causing Brown to sue for discrimination.

The critical question is whether these factual scenarios give rise to an actionable legal claim of discrimination. We consider two potential avenues for relief that plaintiffs may have: the Genetic Information Nondiscrimination Act (GINA)³³⁶ and Title VII of the Civil Rights Act of 1964.³³⁷

1. *Genetic Information Nondiscrimination Act.* — Plaintiffs, like Brown, who face discrimination on the basis of their DNA ancestry test results may have actionable GINA claims. GINA outlaws discrimination based on genetic information in health insurance and employment. It forbids

333. Individuals in interracial unions or who have multiracial children have also experienced explicit overt discrimination at work after an employer discovered their relationships. See Onwuachi-Willig, *According to Our Hearts*, supra note 318, at 199–207.

334. Jamie Levy Pessin, *Fired Iranian Broker Wins \$1.6 Million from Merrill*, Wall St. J. (July 23, 2007), <https://www.wsj.com/articles/SB118522781094175435> (on file with the *Columbia Law Review*).

335. See supra notes 13–20 and accompanying text.

336. Genetic Information Nondiscrimination Act of 2008, Pub. L. No. 110-233, 122 Stat. 881 (codified as amended in scattered sections of 42 U.S.C.).

337. Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 241 (codified as amended in scattered sections of 28 and 42 U.S.C.).

employers from taking adverse employment actions³³⁸ and from limiting, segregating, or classifying employees on the basis of their genetic information.³³⁹ GINA also prohibits employers from requesting, requiring, or purchasing an employee's genetic information except under certain enumerated circumstances.³⁴⁰ Notably, GINA is a preemptive statute.³⁴¹ Genetic information discrimination was not—and continues not to be—a widespread social phenomenon.³⁴²

While Congress most likely passed GINA to alleviate fears around medical genetic testing,³⁴³ the statute's plain language leaves the door open to apply to nonmedical tests. GINA simply covers "genetic information," which it defines as a person's genetic test results, the genetic test results of their family members, and their family medical history.³⁴⁴ Nothing on the statute's face requires the genetic information that it covers to convey health risk. Although eleven legislators objected to this broad definition because it could apply beyond medical genetic testing, Congress nonetheless left it intact.³⁴⁵ The statute's drafters were therefore aware of the law's potential reach beyond medical genetic testing.

338. 42 U.S.C. § 2000ff-1(a)(1) (2018) (stating that employers may not "fail or refuse to hire, or . . . discharge, any employee, or otherwise . . . discriminate against any employee with respect to the compensation, terms, conditions, or privileges of employment . . . because of genetic information with respect to the employee").

339. *Id.* § 2000ff-1(a)(2) (stating that employers may not "limit, segregate, or classify . . . employees . . . in any way that would deprive or tend to deprive any employee of employment opportunities or otherwise adversely affect the status of the employee as an employee, because of genetic information with respect to the employee").

340. GINA contains six exceptions. The statute permits an employer to obtain genetic information under a variety of conditions, including: "(1) inadvertently; (2) through voluntary wellness programs; (3) when processing medical leave; (4) via commercially available documents, like newspapers that contain obituaries; (5) for the occupational monitoring of toxic substances; and (6) to ensure quality control in DNA analysis by law enforcement." Bradley A. Areheart & Jessica Roberts, *GINA, Big Data, and the Future of Employee Privacy*, 128 *Yale L.J.* 710, 728 (2019); see also 42 U.S.C. § 2000ff-1(b)(1)–(6).

341. Jessica L. Roberts, *Preempting Discrimination: Lessons from the Genetic Information Nondiscrimination Act*, 63 *Vand. L. Rev.* 439, 441 (2010) [hereinafter Roberts, *Preempting Discrimination*]. Based on its legislative history, Congress most likely passed the statute to encourage people to learn about their health risks and to participate in research. *Id.* at 471. Securing this objective necessarily requires protection against the adverse use of this information.

342. See Areheart & Roberts, *supra* note 340, at 750.

343. See Genetic Information Nondiscrimination Act of 2008, Pub. L. No. 110-233, § 2, 122 Stat. 881, 882–83 (codified as amended in scattered titles of 42 U.S.C.) ("Federal legislation establishing a national and uniform basic standard is necessary to fully protect the public from discrimination and allay their concerns about the potential for discrimination, thereby allowing individuals to take advantage of genetic testing, technologies, research, and new therapies."); Roberts, *Preempting Discrimination*, *supra* note 341, at 471–74.

344. See 42 U.S.C. § 2000ff(4).

345. See *Lowe v. Atlas Logistics Grp. Retail Servs. (Atlanta), LLC*, 102 F. Supp. 3d 1360, 1368 (N.D. Ga. 2015).

GINA's accompanying Equal Employment Opportunity Commission (EEOC) regulations support an expansive interpretation. The regulations state that "[g]enetic information does not include information . . . about the *race or ethnicity* of the individual or family members that is *not derived from a genetic test*."³⁴⁶ While we reject the notion that DNA ancestry tests reveal race or ethnicity per se, this exception implies that GINA may in fact cover genetic information related to an individual's race or ethnicity when it *is* derived from a genetic test. In other words, it could arguably leave the door open for GINA to apply to DNA ancestry test results.

Moreover, at least one court has applied GINA's protections outside the context of medical genetic testing. In *Lowe v. Atlas Logistics Group Retail Services, LLC*, the federal district court applied GINA to an employer's use of DNA forensics.³⁴⁷ Atlas operated warehouses that stored products sold in grocery stores.³⁴⁸ After discovering human fecal matter in a company warehouse on multiple occasions, Atlas asked some of its employees to provide cheek swabs to identify the guilty culprit(s).³⁴⁹ Atlas then sent the cheek cell samples to a forensics lab that compared the employees' DNA to DNA from the offending excrement. The lab sent those results to Atlas.³⁵⁰ Atlas thus conducted forensic DNA testing in connection with a disciplinary investigation, not to obtain medical- or health-related information.

Two targeted employees, Jack Lowe and Dennis Reynolds, sued Atlas, alleging that GINA prohibits employers from requesting genetic information from their employees.³⁵¹ Atlas moved for summary judgment, arguing that "'genetic information' [for purposes of GINA] refers only to information related to an individual's propensity for disease."³⁵² In other words, Atlas argued that GINA only covers the results of medical genetic testing. However, the court ruled for the plaintiffs, finding that "the unambiguous language of GINA covers Atlas's requests for [the plaintiffs'] genetic information and thus compels judgment in [their] favor."³⁵³ Importantly, the *Atlas* decision suggests that GINA is not limited to genetic information that communicates a health risk.

As demonstrated by *Atlas*, GINA potentially covers a broad range of genetic information. Consequently, courts could reasonably interpret

346. 29 C.F.R. § 1635.3(c)(2) (2019) (emphases added); see also *Booker v. Gregg*, No. 1:16-CV-187 JD, 2016 WL 4437989, at *1 (N.D. Ind. Aug. 23, 2016) (rejecting a GINA claim in which the plaintiff alleged discrimination, relying on the fact that his "genetics are African American," because "Mr. Booker's complaint does not include any allegations related to genetic tests").

347. 102 F. Supp. 3d at 1361.

348. *Id.*

349. *Id.*

350. *Id.* at 1363. The results showed that neither plaintiff was a guilty culprit. *Id.*

351. *Id.* at 1363–64.

352. *Id.* at 1364.

353. *Id.*

GINA to bar employers from collecting or using genetic information to screen for employee health, to identify a guilty defecator in a disciplinary investigation, or—for purposes of this Essay—to discriminate on the basis of race. Thus, plaintiffs who allege that their employer discriminated against them based on the results of their DNA ancestry tests arguably have standing under GINA. Put simply, GINA may cover genetic race discrimination.

GINA, however, has certain potential shortcomings in cases of genetic racism. Importantly, GINA prohibits employers from discriminating against employees “because of genetic information.”³⁵⁴ Yet, when an employer engages in racially discriminatory behavior based on DNA ancestry tests, is that behavior because of the employee’s genetic information or because of the employee’s race? Interestingly, the Cleon Brown case, which involves allegations of racial harassment following the voluntary disclosure of ancestry test results, was brought under Title VII of the Civil Rights Act of 1964 and other civil rights statutes, but not under GINA.³⁵⁵ Given the uncertainty about whether and to what extent GINA applies to genetic race discrimination cases, analysis of Title VII seems pertinent.

2. *Title VII.* — While we reject genetic race, we believe that plaintiffs like Cleon Brown, who experience race discrimination after disclosing their DNA ancestry test results, should have actionable Title VII claims. As we explain in this section, this conclusion does not rely on genetic race. Instead, we join other scholars who argue that courts have used membership in a protected class as a misguided gatekeeping mechanism for antidiscrimination claims.³⁵⁶ Thus, Brown’s lawsuit is actionable—not because he demonstrated that he is Black as a matter of law—but rather because he faced race-related harassment and discrimination by his employer.

Briefly, Title VII’s key statutory provisions are very similar to GINA’s.³⁵⁷ The Act prohibits employers from discriminating on the basis

354. 42 U.S.C. § 2000ff-1 (a) (2018).

355. Plaintiff’s Complaint & Jury Demand, *supra* note 13, at 2, 5–6.

356. See, e.g., Jessica A. Clarke, Protected Class Gatekeeping, 92 N.Y.U. L. Rev. 101, 104 (2017).

357. The statute states:

It shall be an unlawful employment practice for an employer

(1) to fail or refuse to hire or to discharge any individual, or otherwise to discriminate against any individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual’s race, color, religion, sex, or national origin; or

(2) to limit, segregate, or classify his employees or applicants for employment in any way which would deprive or tend to deprive any individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual’s race, color, religion, sex, or national origin.

42 U.S.C. § 2000e-2(a).

of race, color, religion, sex, or national origin.³⁵⁸ Although several analytical frameworks exist for bringing claims under Title VII,³⁵⁹ at least two are pertinent to this analysis: (1) individual disparate treatment claims arising from a tangible, adverse employment action; and (2) individual disparate treatment claims arising from a hostile work environment.

With the former, plaintiffs must prove that their employers intentionally relied upon an impermissible characteristic like race in making an employment decision (e.g., termination, demotion, or a failure to hire).³⁶⁰ In setting forth a prima facie case, plaintiffs must show: “(1) They belong to a group protected by Title VII; (2) They applied and were qualified for the position in question; (3) Despite their qualifications, they were rejected; and (4) The employer continued to look for persons with their qualifications.”³⁶¹

In harassment or hostile work environment cases, plaintiffs must prove that the employer’s conduct was based on a protected classification, was unwelcome, and was sufficiently severe or pervasive as to create a hostile or abusive work environment.³⁶² They need not show an economic or other tangible loss (e.g., loss of benefits, failure to promote, or termination). Nor must they establish that the behavior was psychologically injurious.³⁶³

Although Title VII speaks only in terms of protected classifications (e.g., race, sex, religion, national origin, or color), courts have generally required plaintiffs in individual disparate treatment cases to establish that they are a member of the targeted protected class (e.g., Black, a woman,

358. *Id.*

359. See, e.g., *McKennon v. Nashville Banner Publ’g Co.*, 513 U.S. 352, 356, 359–61 (1995) (setting forth the after-acquired evidence framework); *Price Waterhouse v. Hopkins*, 490 U.S. 228, 250–52 (1989) (setting forth the mixed-motive framework); *Int’l Brotherhood of Teamsters v. United States*, 431 U.S. 324, 334–37 (1977) (setting forth the pattern or practice framework); *Griggs v. Duke Power Co.*, 401 U.S. 424, 429–31 (1971) (setting forth disparate impact theory).

360. See *McDonnell Douglas Corp. v. Green*, 411 U.S. 792, 802, 805 (1973).

361. See *id.* at 802. The employer may rebut this prima facie showing by offering a legitimate, nondiscriminatory reason for its action. *Id.* The plaintiff then has an opportunity to show that the proffered reason is a pretext or a “cover” for discrimination. *Id.* at 804–05. In cases involving multiple or “mixed-motives,” plaintiffs may prevail by establishing that a protected classification was a motivating factor in the employer’s decisionmaking. If a plaintiff successfully makes this showing, then the employer may limit or avoid damages if it proves that it would have made the same decision even if it had not considered the prohibited criterion. See *Desert Palace, Inc. v. Costa*, 539 U.S. 90, 98–102 (2003) (describing the required showing in mixed-motive discrimination cases under Title VII).

362. See *Meritor Sav. Bank v. Vinson*, 477 U.S. 57, 64–65 (1986) (rejecting petitioner’s argument that Title VII only prohibits discrimination resulting in tangible economic loss); see also *Race/Color Discrimination, Equal Emp. Opportunity Comm’n*, https://www.eeoc.gov/laws/types/race_color.cfm [<https://perma.cc/GA3G-QTYM>] (last visited Sept. 23, 2019). The harassment must be severe or pervasive both objectively and subjectively. See *Harris v. Forklift Sys., Inc.*, 510 U.S. 17, 21–22 (1993).

363. See *Harris*, 510 U.S. at 22.

Muslim, etc.). In imposing the “protected class” requirement, courts rely upon the text of Title VII, which prohibits an employer from discriminating against an employee “because of *such individual’s* race, color, religion, sex, or national origin.”³⁶⁴ They have also relied upon the Supreme Court’s decision in *McDonnell Douglas v. Green*, an early Title VII case in which the Court first set forth the framework for inferential or circumstantial individual disparate treatment cases. In that race discrimination case, the Court stated that plaintiffs may set forth a prima facie case by showing, among other things, that “[they] belong[] to a racial minority.”³⁶⁵

In the vast majority of race discrimination cases, the plaintiff’s racial characterization is a nonissue because a plaintiff’s self-identified race (how they identify) is the same as their observed race (how others, including the employer, identify them).³⁶⁶ Moreover, these racial characterizations tend to be stable over time (i.e., a person’s self-identified and observed race do not tend to change). For example, in *McDonnell Douglas*, the employer did not challenge the plaintiff’s characterization of his race as Black because the plaintiff’s self-identified race and observed race were aligned.³⁶⁷

364. 42 U.S.C. § 2000e-2(a)(1) (2018) (emphasis added).

365. *McDonnell Douglas*, 411 U.S. at 802.

366. Although challenges to class membership have not often arisen in past Title VII cases, it is a defense that employers may strategically employ with greater frequency as arguments about multiracialism and colorblindness percolate. See Jones, *Shades of Brown*, *supra* note 229, at 1551–52 (examining the possibility that employers may deny knowledge of an employee’s racial identity in an attempt to negate an inference of discrimination). Indeed, a recent case highlights this possibility. See Complaint & Demand for Trial by Jury at 2, *Evans v. Canal St. Brewing Co.*, No. 2:18-cv-12631 (E.D. Mich. Aug. 22, 2018), 2019 WL 1491969; Tom Perkins, *Founders Brewing Manager Claims He Didn’t Know Black Employee Is Black*, *Detroit Metro Times* (Oct. 21, 2019), <https://www.metrotimes.com/table-and-bar/archives/2019/10/21/founders-brewing-manager-claims-he-didnt-know-black-employee-is-black> (on file with the *Columbia Law Review*). In the case, the plaintiff identified as Black. While being deposed, his former general manager denied knowledge of the plaintiff’s race. *Id.* After some prodding, the manager admitted that the plaintiff’s skin tone was dark, but argued that he did not know the plaintiff’s DNA. *Id.* Interestingly, the manager also denied knowing the race of Michael Jordan or Barack Obama. *Id.* When interviewed, the plaintiff’s attorney expressed the belief that “the move [was] tactical: To argue on whether Founders [Brewing Company] discriminated against Evans as a minority, his managers must first acknowledge that he is one.” Teo Armus, *‘I Don’t Know His DNA’: Craft Brewery Manager Says He Can’t Confirm Black Employee’s Race in Discrimination Lawsuit*, *Wash. Post* (Oct. 22, 2019), <https://www.washingtonpost.com/nation/2019/10/22/craft-brewery-manager-cant-confirm-black-employees-race-discrimination-lawsuit> (on file with the *Columbia Law Review*).

367. See *McDonnell Douglas*, 411 U.S. at 792. For discussion of cases where the plaintiff’s self-identified race and observed race differ, see generally Clarke, *supra* note 356, at 106–07, 121–26 (arguing that courts’ rigid application of the protected class framework excludes nontraditional classes such as LGBT plaintiffs); D. Wendy Greene, *Categorically Black, White, or Wrong: “Misperception Discrimination” and the State of Title VII Protection*, 47 *U. Mich. J.L. Reform* 87, 88–141 (2013) (analyzing cases of misperceived identity); Onwuachi-Willig & Barnes, *supra* note 228, at 1325 (arguing that courts should recognize employment discrimination claims arising when an employee is targeted based on a mistaken racial classification).

Establishing membership in a particular group is not as easy in cases involving racially fluid individuals, like Cleon Brown. Indeed, in the Brown case, the City of Hastings challenged Mr. Brown's claimed Black racial identity, asserting that neither the city, nor Mr. Brown, had ever considered Mr. Brown to be Black.³⁶⁸ For the reasons we articulate in Part I, we agree with the City of Hastings. While DNA test results may increasingly be a constitutive aspect of some people's personal identities, DNA ancestry test results alone should not be conflated with sociopolitical conceptions of race.³⁶⁹ In other words, DNA ancestry test results are not race.

This conclusion raises an important question for genetic race discrimination claims: If a plaintiff cannot show that they are a member of a particular group (i.e., the race that is being maligned), can they proceed with their claim? That is to say, if Cleon Brown cannot use ancestry test results to establish that he is Black, can he still claim racial harassment?

Courts have considered these questions most directly, and with mixed results, in what are increasingly known as misperception discrimination cases.³⁷⁰ In these cases, an employer's perception of the plaintiff's race

368. Walter Smith-Randolph, *Hastings Officer Says Co-Workers Were Racist After Discovering He Is 18-Percent African*, WWMT (May 10, 2017), <https://wwmt.com/news/local/hastings-officer-says-co-workers-were-racist-after-discovering-hes-18-percent-african> [<https://perma.cc/N3U3-G2LE>]. The City argued:

Obviously, individuals who discover the existence of some genetic markers through testing are not within the group of persons the anti-discrimination laws were meant to protect. These statutes were meant to provide redress and legal recourse to a class of individuals who have experienced historic discrimination and harassment because of the color of their skin—not because a Caucasian discovers that his ancestry may be linked back centuries (or perhaps not at all) to an area of the African Continent.

Id. The City thus maintained that Brown had no claim. While we agree that DNA ancestry test results alone are an inadequate basis upon which to assert a racial identity, we do not agree that individuals who experience discrimination as a result of these tests have no legal standing to bring an antidiscrimination claim.

369. See *supra* note 21.

370. The issue has also arisen, albeit less directly, in third-party discrimination cases. In these cases, plaintiffs seek redress for unlawful discrimination that other individuals have suffered rather than discrimination the plaintiff has endured directly. Prototypical third-party cases are sex discrimination cases initiated by male plaintiffs on behalf of women, or race discrimination cases initiated by white plaintiffs on behalf of nonwhite employees. See *Childress v. City of Richmond*, 134 F.3d 1205, 1206–09 (4th Cir. 1998) (en banc), cert. denied, 524 U.S. 927 (1998) (considering allegations of disparaging remarks made to a white male officer about female and Black officers); *Jackson v. Deen*, 959 F. Supp. 2d 1346, 1350–52 (S.D. Ga. 2013) (considering racially discriminatory treatment against Black employees as witnessed by a white employee). Some federal courts have refused to recognize these third-party claims, finding that such discrimination is unrelated to the plaintiffs' protected status and only imparts indirect harm. Accordingly, these courts have held that a plaintiff can only benefit from Title VII protection if the proscribed discrimination is aimed at individuals with whom the plaintiff shares the same racial or gender identity. For criticism of this approach, see Camille Gear Rich, *Marginal Whiteness*, 98 Calif. L. Rev. 1497, 1498,

does not align with the plaintiff's self-identified race and the employer acts based upon its perception.³⁷¹ In some misperception cases, courts have imposed what has become known as an "actuality" requirement. Before allowing a claim to proceed, these courts require that a plaintiff establish "actual" membership in the racial group that is targeted by the employer.³⁷²

For example, in *Butler v. Potter*, the plaintiff, who identified as Caucasian, alleged that his supervisors had discriminated against him because they perceived him to be of Indian or Middle Eastern origin.³⁷³ In rejecting Butler's claim, the court concluded "Title VII protects those persons that belong to a protected class . . . and says nothing about protection of persons who are *perceived* to belong to a protected class."³⁷⁴ The court further determined that if Congress wanted to "protect[] persons who are wrongly perceived to be in a protected class," then it could do so.³⁷⁵

Other courts, however, have disagreed with this reasoning.³⁷⁶ For example, in *Kallabat v. Michigan Bell Telephone Co.*, the plaintiff alleged that he was subject to a hostile work environment and other adverse treatment because his employer perceived him to be Muslim.³⁷⁷ In allowing the plaintiff's claim to proceed, the court suggested a reasonable jury could find that the employer was discriminating on the basis of religion even if

1501-04 (2010) (categorizing third-party race discrimination claims initiated by white plaintiffs as "interracial solidarity" claims and arguing for legal recognition of such claims).

371. See Clarke, *supra* note 356, at 119; Dallon F. Flake, Religious Discrimination Based on Employer Misperception, 2016 Wis. L. Rev. 87, 111-17 (describing key cases in which courts rejected misperception discrimination claims); Greene, *supra* note 366, at 87-88; Onwuachi-Willig & Barnes, *supra* note 228, at 1288.

372. See, e.g., *Sears v. Jo-Ann Stores, Inc.*, No. 3:12-1322, 2014 WL 1665048, at *8 (M.D. Tenn. Apr. 25, 2014); *Yousif v. Landers McClarty Olathe KS, LLC*, No. 12-2788-CM, 2013 WL 5819703, at *3 (D. Kan. Oct. 29, 2013); *Burrage v. FedEx Freight, Inc.*, 4:10CV2755, 2012 WL 1068794, at *6 (N.D. Ohio Mar. 29, 2012); *El v. Max Daetwyler Corp.*, No. 3:09CV415, 2011 WL 1769805, at *5 (W.D.N.C. May 9, 2011), *aff'd*, 451 F. App'x 257 (4th Cir. 2011); *Adler v. Evanston Nw. Healthcare Corp.*, No. 07-C-4203, 2008 WL 5272455, at *4 (N.D. Ill. Dec. 16, 2008); *Lewis v. N. Gen. Hosp.*, 502 F. Supp. 2d 390, 401 (S.D.N.Y. 2007); *Uddin v. Universal Avionics Sys.*, 1:05-CV-1115-TWT, 2006 WL 1835291, at *6 (N.D. Ga. June 30, 2006).

373. 345 F. Supp. 2d 844, 846-48 (E.D. Tenn. 2004).

374. *Id.* at 850.

375. *Id.*

376. See, e.g., *Kallabat v. Mich. Bell Tel. Co.*, No. 12-CV-15470, 2015 WL 5358093, at *4 (E.D. Mich. June 18, 2015); *Arsham v. Mayor of Balt.*, 85 F. Supp. 3d 841, 846 (D. Md. 2015); *Boutros v. Avis Rent A Car System, LLC*, No. 10-C-8196, 2013 WL 3834405, at *7 (N.D. Ill. July 24, 2013); *Zayadeen v. Abbott Molecular, Inc.*, No. 10-C-4621, 2013 WL 361726, at *8 (N.D. Ill. Jan. 30, 2013); *Wood v. Freeman Decorating Servs.*, No. 3:08-CV-00375-LRH-RAM, 2010 WL 653764, at *4 (D. Nev. Feb. 19, 2010); *LaRocca v. Precision Motorcars, Inc.*, 45 F. Supp. 2d 762, 770 (D. Neb. 1999); see also Clarke, *supra* note 356, 112-19 (arguing that this reasoning "misconstrue[s] Title VII's statutory language, . . . *McDonnell Douglas*[,] . . . and standing doctrine").

377. 2015 WL 5358093, at *1-5.

the plaintiff was not in fact Muslim. The court cited a Third Circuit case stating, “What is relevant is that the applicant, whether Muslim or not, was treated worse than he otherwise would have been for reasons prohibited by the statute.”³⁷⁸

Importantly, the EEOC, the entity charged with principal oversight of federal employment discrimination laws, has taken a similar view, concluding that “[d]iscrimination against an individual based on a perception of his or her race violates Title VII even if that perception is wrong.”³⁷⁹

We agree with the EEOC and courts that allow misperception cases to proceed. Much complexity in employment discrimination cases could be reduced if courts focused on the basis for the employer’s adverse action and not on whether an employee is a member of a particular group. Title VII’s animating purpose is to eliminate discriminatory actions by employers in order to increase employment opportunities for workers.³⁸⁰ Given that purpose, to have standing to bring a claim, it should be irrelevant whether the plaintiff actually self-identifies with the race that provided the basis for the employer’s action. The crux of the matter is that the employer acted adversely based upon race. It is this impermissible motive that establishes the basis for liability and that the law seeks to eliminate.

Moreover, it is misguided to say that plaintiffs in misperception cases are not harmed. If a plaintiff loses a tangible employment opportunity, or is harassed, then they are injured regardless of whether they fit within the targeted group. For example, if someone like Cleon Brown can show that he was not hired, or was demoted, terminated, or otherwise subject to abusive work conditions, then that individual has suffered harm despite any dissonance between his self-identified and observed race.

As noted above, these conclusions further Title VII’s animating purpose. They are also not inconsistent with the statutory text. Because the Supreme Court has interpreted Title VII to cover all racial groups,³⁸¹ one reasonably can and should read the statute to mandate only that the plaintiff set forth the nature or character of their claim and that it fall within one of Title VII’s prohibited classifications (i.e., race, color, religion, sex, or national origin).³⁸² Further, although the statute bars discrimination based on “such individual’s race,” courts have interpreted this language to merely require that plaintiffs demonstrate the racial

378. *Id.* at *4 (quoting *Fogleman v. Mercy Hosp., Inc.*, 283 F.3d 561, 571 (3d Cir. 2002)).

379. Equal Emp. Opportunity Comm’n, EEOC Compliance Manual: Directives Transmittal No. 915.003, at 15-5 (Apr. 19, 2006), <https://www.eeoc.gov/policy/docs/race-color.pdf> [<https://perma.cc/R3N5-3F62>].

380. See 29 C.F.R. § 1608.1(b) (2020).

381. *McDonald v. Santa Fe Trail Transp. Co.*, 427 U.S. 273, 278–79, 283 (1976).

382. See *Clarke*, *supra* note 356, at 102–04 (arguing against protected class gatekeeping because the goal of Title VII should be to prohibit all forms of group-based discrimination). For a thorough critique of the protected class requirement, see *id.* at 112–19.

character of the defendant's action.³⁸³ Finally, although Title VII, unlike the Americans with Disabilities Act (ADA), does not address "regarded as" discrimination, this omission should not be determinative. Cases of misperceived identity simply may not have been within Congress's contemplation when Title VII was adopted. Indeed, in interpreting Title VII, the Supreme Court has recognized claims that may not have been on Congress's radar in 1964. For example, in holding that same-sex sexual harassment claims are cognizable, the Court acknowledged that "male-on-male sexual harassment in the workplace was assuredly not the principal evil Congress was concerned with when it enacted Title VII."³⁸⁴ However, the Court went on to observe that "statutory prohibitions often go beyond the principal evil to cover reasonably comparable evils."³⁸⁵

To conclude that Cleon Brown and other racially fluid persons ought to have standing to bring race discrimination claims, even if their self-identified race and observed race do not align, does not mean these plaintiffs will ultimately win their cases. Difficult questions will remain for the factfinder to determine. For example, in a case like Cleon Brown's, it will be up to the factfinder to decide whether Brown subjectively found the harassment to be hostile or abusive, or whether it was, as the City maintained, teasing that Brown himself instigated and promoted.³⁸⁶ The factfinder will also need to determine what the employer perceived the plaintiff's race to be³⁸⁷ and whether the employer's actions were based upon race at all. For example, in the Cleon Brown case, the City might argue that Brown's coworkers were not motivated by race per se, but rather they were mocking the fact that Brown was engaging in racial fraud.

To sum up, at least two federal laws could provide potential recourse against genetic racism in the employment arena. Because GINA does not

383. See *id.* at 113–15.

384. *Oncale v. Sundowner Offshore Servs., Inc.*, 523 U.S. 75, 79 (1998).

385. *Id.* See also *Bostock v. Clayton County*, 140 S. Ct. 1731, 1750–53 (2020) (holding that Title VII's prohibition against sex discrimination forbids discrimination on the basis of sexual orientation or gender identity even though Congress may not have contemplated such protection in 1964).

386. See *Smith-Randolph*, *supra* note 368 (describing the statement issued by the City of Hastings, which alleges that Brown instigated the jokes about his race and failed to adequately prove that he subjectively experienced a hostile work environment).

387. If a factfinder were to reject genetic race and to conclude that Cleon's race was white and that he was perceived as such by his coworkers, then his case would not fit the misperception frame. Rather, his race discrimination claim would be akin to an associational claim. For example, in her analysis of the case, Professor Tanya Katerí Hernández states that "Cleon looked white, and thus his perceived race was white. The discriminatory treatment he received was not based on his perceived race but was instead motivated by the nonwhite results of his Anctesry.com test." See Hernández, *Multiracials and Civil Rights*, *supra* note 21, at 13; see also Onwuachi-Willig, *According to Our Hearts*, *supra* note 318, at 207–12 (discussing discrimination by association cases in the context of interracial relationships). An associational claim might also exist in cases where a plaintiff, upon receipt of DNA ancestry test results, began to associate more with people of color, or to embrace social causes involving race.

limit the kind of genetic test results it covers, its protections should extend to DNA ancestry tests. While we believe that plaintiffs like Brown may also have actionable Title VII claims, they should be entitled to relief not because they have adequately “proved” their race using DNA ancestry tests but because they have faced racial discrimination or harassment.

B. *Race-Conscious Initiatives and Genetic Race*

Genetic race raises complex issues in other areas, including race-conscious initiatives.³⁸⁸ In recent decades, the Supreme Court has restricted the use of these initiatives to two purposes: (1) remedying past and present discrimination;³⁸⁹ and (2) increasing an organization’s overall racial diversity.³⁹⁰ As explained below, we are skeptical of the use of genetic race in these contexts.

Remedial race-conscious initiatives have a long history, dating back at least to the late nineteenth century.³⁹¹ Modern equivalents find expression in the affirmative efforts of private and governmental actors to redress discrimination against Black Americans and other people of color. For example, since the 1970s, colleges and universities have instituted proactive measures to increase the number of minorities in their student bodies.³⁹² Governmental entities have also sought to be more racially egalitarian by, for example, implementing programs to encourage the hiring of minority contractors.³⁹³ These race-conscious programs have been subject to backlash and controversy, and over time the Supreme

388. In this Essay, we use “race-conscious initiatives” synonymously with “affirmative action.”

389. See *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200, 227, 236 (1995) (holding that all racial classifications will be subject to strict scrutiny in order to prevent reoccurrences of past discrimination and future discrimination).

390. See *Grutter v. Bollinger*, 539 U.S. 306, 328–29 (2003) (holding that the educational benefits flowing from a diverse student body constitute a compelling state interest and that colleges and universities may consider race in admissions to secure these benefits). For an overview of these rationales and the emergence of the diversity rationale, see Trina Jones, *The Diversity Rationale: A Problematic Solution*, 1 *Stan. J. C.R. & C.L.* 171, 171–75 (2005) [hereinafter Jones, *The Diversity Rationale*].

391. See Eric Schnapper, *Affirmative Action and the Legislative History of the Fourteenth Amendment*, 71 *Va. L. Rev.* 753, 755, 777 (1985) (pointing to the existence of remedial race-based initiatives, like *The Freedmen’s Bureau*, at the time of the Fourteenth Amendment’s adoption).

392. See, e.g., *Fisher v. Texas*, 570 U.S. 297, 306 (2013) (“[T]he University included a student’s race as a component of the [Personal Achievement Index] score, beginning with applicants in the fall of 2004.”); *Grutter*, 539 U.S. at 316 (ruling on a law school admissions program that considered racial diversity as a factor in admission decisions); *Regents of the Univ. of Cal. v. Bakke*, 438 U.S. 265, 289 (1978) (involving a medical school admissions program that reserved sixteen seats for minority applicants).

393. See, e.g., *Adarand Constructors*, 515 U.S. at 206 (concerning federal contracts that provide incentives for employing socially and economically disadvantaged individuals as subcontractors); *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469, 477 (1989) (ruling on a city ordinance that required contractors to subcontract at least thirty percent of the contract to minorities).

Court has limited their use by disallowing reliance on quotas,³⁹⁴ subjecting all such initiatives to strict scrutiny (regardless of their underlying intent),³⁹⁵ and requiring that such measures be directed at specifically identifiable acts of discrimination by the entity in question.³⁹⁶

Because of these restrictions, in the 1990s, racial justice advocates began increasingly to rely upon another justification for affirmative action—diversity.³⁹⁷ Although diversity measures are similar to remedial race-conscious programs in that both seek to include persons with different life experiences, diversity measures generally do not focus on corrective or distributive justice.³⁹⁸ Rather, proponents of diversity initiatives contend “that diversity is good in itself and that contributions from persons of diverse backgrounds will advance the mission of the entity in question.”³⁹⁹ Importantly, in 2003, the U.S. Supreme Court accepted the diversity rationale in the context of university admissions,⁴⁰⁰ finding that student body diversity increases cross-racial understanding, augments the learning process, promotes good citizenship, and legitimates future leaders.⁴⁰¹ Businesses and other entities have also embraced the rationale. Some businesses welcome the reputational boost that a diverse workforce produces.⁴⁰² Others believe that diversity augments problem solving and improves client relations.⁴⁰³

The diversity rationale, however, has been subject to extensive criticism. Indeed, preeminent race scholars have argued that it is insufficiently tethered to the history of race and racial justice struggles in this country. For example, Professor Derrick Bell has asserted that “the

394. *Bakke*, 438 U.S. at 318.

395. *Adarand Constructors*, 515 U.S. at 227.

396. *Croson*, 488 U.S. at 504.

397. See Beydoun & Wilson, *supra* note 265, at 289–92 (discussing the emergence and limitations of the diversity rationale); Jones, *The Diversity Rationale*, *supra* note 390, at 175 (same).

398. Jones, *The Diversity Rationale*, *supra* note 390, at 173–74.

399. *Id.* at 173.

400. See *Grutter v. Bollinger*, 539 U.S. 306, 341 (2003) (“We agree that, in the context of its individualized inquiry into the possible diversity contributions of all applicants, the Law School’s race-conscious admissions program does not unduly harm nonminority applicants.”); *Gratz v. Bollinger*, 539 U.S. 244, 268 (2003) (holding that the educational benefits flowing from a diverse student body constitute a compelling state interest).

401. See *Grutter*, 539 U.S. at 328–32.

402. See Joe Hanel, *3 Ways a Diverse Workplace Can Positively Impact an Organization*, *Charlotte Bus. J.* (Mar. 6, 2017), <https://www.bizjournals.com/charlotte/news/2017/03/06/3-ways-a-diverse-workplace-can-positively-impact.html> (on file with the *Columbia Law Review*).

403. See e.g., Katherine W. Phillips, *How Diversity Makes Us Smarter*, *Greater Good Mag.* (Sept. 18, 2017), https://greatergood.berkeley.edu/article/item/how_diversity_makes_us_smarter [<https://perma.cc/9XP5-8K3V>]; Scott Page, *How Diversity Powers Team Performance*, *Knowledge@Wharton* (Jan. 4, 2018), <https://knowledge.wharton.upenn.edu/article/great-teams-diversity> [<https://perma.cc/W52B-U4D7>]. For an extensive examination of corporate diversity programs, see generally Stephen M. Rich, *What Diversity Contributes to Equal Opportunity*, 89 *S. Cal. L. Rev.* 1011 (2016).

concept of diversity . . . is a serious distraction in the ongoing efforts to achieve racial justice [in part because] diversity enables courts and policymakers to avoid addressing directly the barriers of race and class that adversely affect so many [Black] applicants.”⁴⁰⁴ Similarly, Professor Charles Lawrence has noted that the diversity rationale “articulates its purpose as ‘forward-looking’ rather than ‘backward-looking.’ [In so doing,] it avoids any direct admission or acknowledgement of [an] institution’s past discriminatory practices, even when that discrimination is de jure and of relatively recent vintage [Proponents behave] as if there is no structural discrimination to remedy.”⁴⁰⁵

Whether offered for remedial or diversity purposes, race-conscious initiatives implicate genetic race as entities may seek to use DNA ancestry test results to benefit from these programs.⁴⁰⁶ For example, business owners, like Ralph Taylor, may invoke DNA ancestry test results to argue that their businesses are minority-owned.⁴⁰⁷ Or, a subcontracting firm may seek to increase the number of people of color in its workforce in order to qualify for certain governmental contracts.⁴⁰⁸ For example, the firm might ask its current or future employees to undergo DNA ancestry testing and,

404. Derrick Bell, *Diversity’s Distractions*, 103 *Colum. L. Rev.* 1622, 1622 (2003).

405. Charles R. Lawrence III, *Two Views of the River: A Critique of the Liberal Defense of Affirmative Action*, 101 *Colum. L. Rev.* 928, 953–54 (2001). Other scholars have expressed similar views. See, e.g., Mario L. Barnes, *We Will Turn Back?: On Why Regents of the University of California v. Bakke Makes the Case for Adopting More Radically Race-Conscious Admissions Policies*, 52 *U.C. Davis L. Rev.* 2265, 2296 (2019) (noting that class and diversity-based initiatives “allow a remedy that should seek to cure the effects of past and current racial discrimination to be applied without addressing the important role race played in structuring opportunity or the lack thereof”); Richard Delgado, *Affirmative Action as a Majoritarian Device: Or, Do You Really Want to Be a Role Model?*, 89 *Mich. L. Rev.* 1222, 1223–25 (1991) (arguing that affirmative action in general is ahistorical and inattentive to historical wrongs). But see Kathleen M. Sullivan, *Sins of Discrimination: Last Term’s Affirmative Action Cases*, 100 *Harv. L. Rev.* 78, 98 (1986) (arguing that a focus on discrimination limits the potential of affirmative action measures).

406. See also Beydoun & Wilson, *supra* note 397, at 328–47 (arguing that the Supreme Court’s affirmative action jurisprudence has created incentives for white individuals to “reverse pass” in order to secure access to affirmative action programs, among other things).

407. See Farzan, *supra* note 243. For example, in order to be considered a minority-owned business by the National Minority Supplier Development Council at least fifty-one percent of a business must be owned by a member of a minority group, or in the case of a publicly owned business, at least fifty-one percent of the stock must be owned by one or more minority group members. See Sarah Kessler, *How to Get Certified as a Minority-Owned Business, Inc.*, <https://www.inc.com/guides/2010/05/minority-owned-business-certification.html> [<https://perma.cc/BAN4-945S>] (last visited Sept. 25, 2019).

408. Far from being mere speculation, this kind of DNA ancestry testing for affirmative action purposes has already taken place. One author writing about the social, legal, and medical implications of DNA ancestry testing explained: “Some employers—even after adoption of the Genetic Information Nondiscrimination Act of 2008—have sought DNA ancestry tests for employees in order to gain governmental benefits for minority businesses (personal experience).” Wagner, *supra* note 76, at 243.

much like the fictional mayor of Portland in Part III,⁴⁰⁹ instantly transform the racial composition of a pool of predominantly white employees.

In addition to businesses, individuals may seek to rely upon the results of DNA ancestry tests in order to benefit from affirmative action. The infamous case of *Malone v. Civil Service Commission* demonstrates this possibility.⁴¹⁰ The case involved twin brothers, Paul and Philip Malone, who took a civil service exam in 1975 to secure employment with the Boston, Massachusetts, fire department.⁴¹¹ The Malone brothers were fair haired and light-skinned with “Caucasian” facial features.⁴¹² In 1975, they listed their race as “White” on their initial job applications.⁴¹³ When both brothers performed poorly on the 1975 exam, the City denied them employment.⁴¹⁴ In 1977, the Malone brothers took the civil service exam again. At the time of the second exam, Boston had agreed to a court-ordered affirmative action plan in order to increase the number of Black people in its fire department. Although the brothers’ 1977 test scores would not have qualified them for employment if they were “White,” the brothers had listed their race as “Black.” They were hired and served as firefighters for ten years.⁴¹⁵

In 1987 when the Malones applied for promotions, the Fire Commissioner noticed that the brothers were classified as “Black.” The City subsequently terminated the Malones for having falsified their 1977 applications.⁴¹⁶ In the ensuing legal proceedings, the Malones sought to prove they were Black by offering a questionable and inconclusive photograph of a woman who was allegedly the Malones’ maternal great grandmother.⁴¹⁷ The Malones claimed that they were told she was Black.⁴¹⁸ However, evidence presented at trial indicated that the Malone family had held itself out as white for three generations.⁴¹⁹

409. See *supra* notes 254–262 and accompanying text.

410. 646 N.E.2d 150 (Mass. App. Ct. 1995). The *Malone* case has been discussed frequently by legal academics. See, e.g., Beydoun & Wilson, *supra* note 397, at 331–33; Christopher A. Ford, *Administering Identity: The Determination of “Race” in Race-Conscious Law*, 82 Calif. L. Rev. 1231, 1232–34 (1994); Luther Wright, Jr., *Note, Who’s Black, Who’s White, and Who Cares: Reconceptualizing the United States’s Definition of Race and Racial Classifications*, 48 Vand. L. Rev. 513, 515–16 (1995).

411. See Wright, *supra* note 410, at 515.

412. See Ford, *supra* note 410, at 1232–33.

413. *Malone*, 646 N.E.2d at 151 n.3.

414. See Wright, *supra* note 410, at 515.

415. Ford, *supra* note 410, at 1232–33.

416. See *id.*

417. *Malone*, 646 N.E.2d at 152 n.5. The court offered three ways in which the Malones might establish that they were Black: (1) through physical appearance; (2) through official documentation, like a birth certificate showing Black ancestry; and (3) by showing that the brothers or their families had held themselves out to the community as Black and were regarded by the community as Black. See Ford, *supra* note 410, at 1233.

418. See Ford, *supra* note 410, at 1233 n.12.

419. See *id.* at 1233.

To be sure, the Malone case occurred before the advent of DNA ancestry testing.⁴²⁰ One can nonetheless readily envision other individuals, similar to the Malone brothers, relying upon DNA ancestry test results to qualify for race-conscious programs.⁴²¹ For example, individuals may seek to rely on DNA tests in college admissions.⁴²² Indeed, in a recent legal case, a medical school applicant alleged that the school's admissions advisor said her chances of securing admission would increase if she took a DNA ancestry test that revealed Native American or African American ancestry.⁴²³ Refusing to heed this advice, the applicant applied to the school, indicating her race as white, and was rejected. She subsequently sued the school, alleging racial discrimination in the admissions process.⁴²⁴

In another instance, journalist John Crudele reports receiving the following reader response to an article he wrote inquiring about the use of DNA ancestry tests in college admissions. The reader stated:

“My daughter is in the process of applying for colleges. Although both of my wife’s parents were off-the-boat Irish, family lore has always attributed the dark complexion of some relatives to Spain/the Armada[]” “We did DNA testing out of curiosity and, frankly, to see if we could get a leg up on college admissions. As it turns out, my daughter does indeed have Spanish blood[]” “But after the test we were told by the National Hispanic Honor Society, ‘She’s not Spanish enough,’ and she was out. In the insanity that guides affirmative action, however, we learned that Spanish is ‘self identifying’—if you feel Spanish, you are! Isn’t that great?”⁴²⁵

420. For other cases similar to the Malones’, see Beydoun & Wilson, *supra* note 397, at 333–37 (discussing the case of a white professor who was “outed” for passing as Native American).

421. See Amy Harmon, *Seeking Ancestry in DNA Ties Uncovered by Tests*, N.Y. Times (Apr. 12, 2006), <https://www.nytimes.com/2006/04/12/us/seeking-ancestry-in-dna-ties-uncovered-by-tests.html> (on file with the *Columbia Law Review*) (noting the myriad ways in which Americans are strategically using DNA ancestry test results, including to make claims to citizenship, scholarships, health services, and casino money, among other things).

422. See John Crudele, *Proof that DNA Testing Is Going to Start Making an Impact on College Admissions*, N.Y. Post (May 7, 2018), <https://nypost.com/2018/05/07/proof-that-dna-testing-is-going-to-start-making-an-impact-on-college-admissions> [<https://perma.cc/2PJG-CJ68>]; Harmon, *supra* note 421. One can also foresee similar scenarios arising in other areas. For example, individuals might try to rely upon DNA ancestry test results when seeking membership in organizations that are designed to serve minority communities (e.g., a Black or Latin American Law Students’ Association).

423. Scott Jaschik, *DNA Testing, Race, and an Admissions Lawsuit*, Inside Higher Ed (Jan. 28, 2019), <https://www.insidehighered.com/admissions/article/2019/01/28/lawsuit-raises-questions-about-dna-testing-race-and-admissions> [<https://perma.cc/5HKC-5GUZ>]. The applicant alleged that the school’s admissions officer also told her that she had “advised a past Caucasian applicant to obtain a genetic test, that the applicant learned that he was partially African American, and that he was accepted into Jefferson on account of his race.” *Id.*

424. *Id.*

425. Crudele, *supra* note 422 (quoting J.P. Barry, a reader of the *New York Post*).

In addition to admissions, DNA ancestry tests may also be used to secure financial aid. Journalist Amy Harmon describes a situation that involved adopted twins. The twins' birth parents identified as white and the twins had always thought of themselves as white.⁴²⁶ Yet, when it was time to apply for college, the twins' adopted father decided "it might be worth investigating the origins of their slightly tan-tinted skin, with a new DNA kit that he had heard could determine an individual's genetic ancestry."⁴²⁷ Although the DNA ancestry test results, stating that the twins were nine percent Native American and eleven percent northern African, arrived too late to be used in the admissions process, the father thought they might be useful in securing financial aid.⁴²⁸ The father, a business executive, told Harmon, "Naturally when you're applying to college you're looking at how your genetic status might help you . . . I have three kids going now, and you can bet that any advantage we can take we will."⁴²⁹

As noted earlier, we reject such uses of genetic race. Allowing individuals access to race-conscious initiatives premised on genetic race has the potential to undermine or thwart remedial or corrective justice. Importantly, corrective or remedial affirmative action programs are designed to ameliorate the effects of past and present discrimination against groups that have experienced structural disadvantages based on race.⁴³⁰ The theory is that structural racism has prevented—and continues to prevent—certain groups from having access to housing, employment, educational, and other opportunities and that affirmative efforts are required to level the playing field.⁴³¹ These policies and programs serve antisubordination goals and are responding to problems that are social—not biological, scientific, or genetic—in nature. The problem with applicants who base their race solely upon DNA ancestry test results is that these applicants may not have experienced any of the disadvantages that affirmative action programs seek to redress.⁴³² Put differently, genetic race

426. Harmon, *supra* note 421.

427. *Id.*

428. *Id.*

429. *Id.*

430. See generally Jack M. Balkin & Reva B. Siegel, *The American Civil Rights Tradition: Anticlassification or Antisubordination?*, 58 U. Miami L. Rev. 9 (2003) (analyzing the interplay of anticlassification and antisubordination principles within antidiscrimination jurisprudence).

431. See Randall Kennedy, *For Discrimination: Race, Affirmative Action, and the Law* 39–54, 78–81 (2013) (tracing the historical development of contemporary affirmative action programs). See generally Lawrence, *supra* note 405 (defending affirmative action programs at educational institutions); Ta-Nehisi Coates, *The Case for Reparations*, Atlantic (June 2014), <https://www.theatlantic.com/magazine/archive/2014/06/the-case-for-reparations/361631> (on file with the *Columbia Law Review*) (describing the inter-generational effects of slavery and segregation in the United States).

432. See Roberts, *Fatal Invention*, *supra* note 59, at 250–51. Roberts observes: Applying for benefits under a genetic alias distorts the purpose of affirmative action policies designed to remedy institutionalized racism . . . Whites who discover for the first time after taking a DNA test that they have a tiny fraction of African, Asian, or Native American

does not provide a means of identifying and addressing individuals and groups who have been and continue to be subject to systemic race-based barriers to opportunity.

Consider again Ralph Taylor.⁴³³ A DNA ancestry test revealed that four percent of his DNA traced to sub-Saharan Africa. Thus, Taylor, like many Americans, has non-European ancestry. Yet, his entire life, Taylor viewed himself and was viewed by others as white. His phenotype, cultural practices, and all the other indicators that people use to assign race led to his designation as white. Although Taylor's DNA ancestry test results may indicate genetic links to Africa, he has not experienced structural disadvantage due to his race nor will this likely be the case. In short, relying on the results of DNA ancestry tests in the affirmative action context obscures the reality that discrimination is a social phenomenon, with material consequences, based on the social salience of race.

We are similarly skeptical of a reliance on genetic race to access diversity initiatives. As noted earlier, these initiatives have little meaning unless they are grounded in a particular sociopolitical and historical context. When we drill deeply and ask for what purpose racial diversity is being pursued, the answer is invariably because a person's race tells us something about that person's lived experience in the United States and we believe that experience may shape the person's outlook and add value to an organization. Again, the problem with reliance upon ancestry test results as a proxy for race is that genetic race does not align with the sociopolitical nature of race and therefore does not reflect a person's lived experience as a member of a particular racial group.⁴³⁴ Thus, to the extent that diversity programs employ race as a proxy for perspectives that have been shaped by a particular sociopolitical context, racial identification based solely on a DNA ancestry test adds very little.

Ralph Taylor's case exemplifies this gap.⁴³⁵ His entire life, Taylor self-identified and was viewed by others as white. If an entity implements a race-conscious diversity plan seeking greater representation among racial minorities, it is hard to see how this goal can be furthered by crediting Taylor's racial classification based on his DNA ancestry test results. Indeed, doing so would result in a superficial form of paper diversity, as Taylor would not have an extensive lived experience as a Black person.

Even without an extensive lived experience as a racial minority in the United States, some will contend that people who change their race, like

ancestry should not be entitled to claim any benefit because they have not experienced the racial disadvantages that affirmative action redresses. Their race has not changed on account of a genetic test.

Id.

433. See *supra* notes 10–12, 277–290 and accompanying text.

434. See *supra* section II.B.

435. See *supra* notes 10–12, 277–290 and accompanying text.

Rachel Dolezal⁴³⁶ and Ralph Taylor,⁴³⁷ ought to qualify for diversity-centered initiatives. The argument is that these individuals occupy a unique space and may have views and experiences that differ from persons whose racial identification has never shifted. While we acknowledge this argument, we caution against creating a false equivalency—that is to conclude that the experiences of these individuals are substantively the same as those of individuals who have been Black their entire lives. We question whether a transitional experience of race should be accorded the same salience as an extensive experience as a racial minority in this country. We also express concern about the extent to which such racial transitions might be used strategically to secure material advantages.

C. *Immigration Law*

Lastly, courts, legislators, and policymakers may be tempted to rely on genetic ancestry tests as proxies for race, national origin, and ethnicity in the context of immigration. Incorporating genetic testing, including DNA ancestry tests, into the U.S. immigration process is not mere conjecture. Other countries have adopted—and later abandoned—immigration policies that rely on genetic race. And the United States government has recently expanded DNA collection at the border.⁴³⁸ Should immigration officials in the United States decide to screen for genetic race, they could do so without much added effort. This section briefly overviews some current uses of genetic information in U.S. immigration policy and, drawing upon the experiences of at least two other countries, hints at future problems that could arise here. Consistent with the major theme of this Essay, we conclude that overreliance on DNA ancestry tests in the context of immigration is likely to be misguided, if not discriminatory.

1. *United States DNA Immigration Policies.* — While the United States has a history of excluding people based on ethnicity and nationality⁴³⁹ and currently collects DNA for immigration purposes, it has not yet used DNA ancestry tests to screen immigrants. However, existing policies lay precedent for immigration officials to rely on genetic race, should they want to, in the future.

436. See *supra* notes 269–276 and accompanying text.

437. See *supra* notes 10–12, 277–290 and accompanying text.

438. DNA-Sample Collection from Immigration Detainees, 84 Fed. Reg. 56,397, 56,398–99 (Oct. 22, 2019) (codified at 28 C.F.R. § 28.12(b)(4) (2020)) (limiting the Secretary of Homeland Security’s authority to exempt persons detained at the border from DNA testing); Bobby Allen & Joel Rose, Justice Department Announces Plan to Collect DNA from Migrants Crossing the Border, NPR (Oct. 21, 2019), <https://www.npr.org/2019/10/21/772035602/justice-department-announces-plan-to-collect-dna-from-migrants-crossing-the-bord> [<https://perma.cc/A83C-GSZA>] (discussing the Justice Department’s proposal “to begin collecting DNA samples from hundreds of thousands of immigrants crossing the border”).

439. See *infra* notes 467–468 and accompanying text.

Immigration officials have, on occasion, relied on genetic tests to establish or to verify family relatedness. The United States grants citizenship to the foreign-born children of U.S. citizens⁴⁴⁰ if the citizen parent establishes a biological link to the child.⁴⁴¹ Parents may opt to prove that relationship using genetic tests.⁴⁴² The United States also has a family reunification program that allows refugees and asylees to apply for their immediate family members to enter the country.⁴⁴³ Under the I-730 “follow-to-join” process, a refugee or asylee can file a petition for their spouse or unmarried children under the age of twenty-one.⁴⁴⁴ In addition, people from certain countries who have an “anchor relative” in the United States can participate in the United States Refugee Admissions Program, referred to as the “Priority Three” or “P-3” family reunification program.⁴⁴⁵ Pursuant to that initiative, both the anchor relatives and the individuals seeking entry to the United States must provide genetic test results to confirm their biological relationship.⁴⁴⁶

The mandatory DNA testing requirements in the P-3 program were adopted in response to suspected fraud. The Bush administration authorized a study from 2007 to 2008 that took genetic information from individuals who were seeking to join their family members in the United States.⁴⁴⁷ The study claimed to have found widespread immigration fraud—over eighty percent—leading the government to suspend the P-3 family reunification program.⁴⁴⁸ In 2010, the Department of State proposed a policy to require mandatory DNA testing as a condition of

440. 8 U.S.C. § 1401(c)–(e) (2018).

441. The actual processes of establishing citizenship vary depending on whether the parents are married and, if the parents are not married, whether the U.S. citizen is the child’s mother or father. Acquisition of U.S. Citizenship at Birth by a Child Born Abroad, U.S. Dep’t of State—Bureau of Consular Affs., <https://travel.state.gov/content/travel/en/legal/travel-legal-considerations/us-citizenship/Acquisition-US-Citizenship-Child-Born-Abroad.html> [<https://perma.cc/9DSY-RR8L>] (last visited Aug. 27, 2020).

442. Information on DNA Testing, U.S. Dep’t of State—Bureau of Consular Affs., <https://travel.state.gov/content/travel/en/legal/travel-legal-considerations/us-citizenship/US-Citizenship-DNA-Testing.html> [<https://perma.cc/3H2N-6YL3>] (last visited Aug. 27, 2020).

443. US Family Reunification, U.N. High Comm’r for Refugees, <https://www.unhcr.org/en-us/us-family-reunification.html> [<https://perma.cc/LYT8-S857>] (last visited Aug. 27, 2020).

444. *Id.*

445. *Id.*

446. *Id.*

447. See Fraud in the Refugee Family Reunification (Priority Three) Program Fact Sheet: Bureau of Population, Refugees, & Migration, U.S. Dep’t of State, (Feb. 3, 2009), <https://2009-2017.state.gov/j/prm/releases/factsheets/2009/181066.htm> [<https://perma.cc/P6LF-4KLF>] [hereinafter U.S. Dep’t of State, P-3 Program Fact Sheet].

448. Bonnie Erbe, Immigration Fraud Riddles Suspended Family Reunification Program, U.S. News & World Rep.: Thomas Jefferson St. (Dec. 11, 2008), <http://www.usnews.com/opinion/blogs/erbe/2008/12/11/immigration-fraud-riddles-suspended-family-reunification-program> (on file with the *Columbia Law Review*) (“The tests were able to confirm familial relationships in only 20 percent of cases, so six weeks ago the department suspended the program until officials figure out a better way to run it.”).

accessing the program.⁴⁴⁹ As of October 2012, all participants in the P-3 program must submit to genetic testing.⁴⁵⁰ Notably, African refugees comprised over ninety-five percent of the participants in this program prior to its suspension.⁴⁵¹

The use of genetic tests to verify family relationships for immigration purposes may be growing in popularity. In 2018, when the United States government separated thousands of children from their parents at the U.S.–Mexico border, some proposed using genetic tests to reunite the separated families.⁴⁵² In 2019, ICE began a pilot program using Rapid DNA kits to evaluate the familial relationships of individuals apprehended by DHS.⁴⁵³ When it first adopted the policy in the summer of 2019, ICE issued a privacy impact statement with DHS promising to destroy all DNA samples and purge all data following the testing.⁴⁵⁴ Instead of destroying this

449. 60-Day Notice of Proposed Information Collection: DS-7656; Affidavit of Relationship (AOR); OMB Control No. 1405–XXXX, 75 Fed. Reg. 54,690, 54,690 (Sept. 8, 2010).

450. See U.S. Dep’t of State, DHS & DHHS, Proposed Refugee Admissions for Fiscal Year 2013 Report to the Congress 12 (2012), <https://2009-2017.state.gov/documents/organization/198157.pdf> [<https://perma.cc/4WSN-VTG5>] (explaining that the P-3 program will resume in fiscal year 2013 with new requirements, including that “DNA evidence of certain claimed biological parent-child relationships will be required” as part of the program); Edward S. Dove, Back to Blood: The Sociopolitics and Law of Compulsory DNA Testing of Refugees, 8 U. Mass. L. Rev. 466, 480–81 (2013) (discussing the Oct. 4, 2012, press release from the State Department’s Bureau of Population, Refugees, and Migration, which stated that DNA evidence of a biologic parent-child relationship will be required under the P-3 Program).

451. U.S. Dep’t of State, P-3 Program Fact Sheet, *supra* note 447 (“In recent years, more than 95% of the applications to the P-3 program have been African—primarily Somalis, Ethiopians and Liberians.”).

452. Sarah Elizabeth Richards, Why There’s a Deep Cultural Aversion to DNA Testing, Even When It Can Reunite Separated Immigrant Families, *Time* (July 17, 2018), <https://time.com/5340278/dna-testing-immigration-family-separation> [<https://perma.cc/A8H3-C8GB>].

453. DHS, Privacy Impact Assessment for the Rapid DNA Operational Use 1 (2019), https://www.dhs.gov/sites/default/files/publications/privacy-pia-ice-rapiddna-june2019_0.pdf [<https://perma.cc/Q567-8JXY>] [hereinafter DHS, Rapid DNA Operational Use]; Priscilla Alvarez & Geneva Sands, Exclusive: DHS to Start DNA Testing to Establish Family Relationships on the Border, *CNN Politics* (May 1, 2019), <https://www.cnn.com/2019/04/30/politics/homeland-security-dna-testing-immigration/index.html?no-st=1557614020> [<https://perma.cc/Y6QL-RHDC>]. Under U.S. immigration law, U.S. citizens can bring close relatives to the United States, and in certain circumstances refugees can join their family members in the United States. See Family, USCIS, <https://www.uscis.gov/family> [<https://perma.cc/Y7DT-ETXB>] (last updated Dec. 31, 2019) (outlining how U.S. citizens may petition for relatives to immigrate to the United States); U.S. Refugee Admission Program Access Categories, U.S. Dep’t of State, <https://www.state.gov/refugee-admissions/u-s-refugee-admissions-program-access-categories> [<https://perma.cc/U6HC-7AMV>] (last visited Aug. 27, 2020) (outlining how members of designated nationalities may be reunified with family members already in the United States). The government stated that the pilot program was to prevent fraud and child trafficking. DHS, Rapid DNA Operational Use, *supra*, at 1.

454. DHS, Rapid DNA Operational Use, *supra* note 453, at 5.

information, mere months later, the DOJ decided to further expand DNA collection at the border.⁴⁵⁵ Since January 2020, DHS, ICE, and Border Patrol have had the power to collect the DNA of all individuals in immigration custody and to upload their data to the federal crime-solving database CODIS.⁴⁵⁶ While this new expansion raises serious civil liberty and social justice concerns outside the immediate scope of this Essay,⁴⁵⁷ for the purposes of our analysis, it demonstrates that immigration officials are more than capable of mass DNA collection and testing at the border.

While able to identify a person's genetic family members,⁴⁵⁸ genetic tests cannot detect meaningful social relationships. Genetic tests for family are both overinclusive and underinclusive, including some who lack a familial relationship, while excluding others who may in fact have such a relationship. As Professors Kerry Abrams and Brandon Garrett point out, "[L]awmakers assume that a genetic tie stands in for another kind of relationship, for example, that a genetic father should automatically be a legal father, or a genetic parent should automatically confer citizenship on her foreign-born child."⁴⁵⁹ The reliance on genetic tests in immigration law, however, may devalue the often far more significant social ties that constitute family. To start, definitions of family may vary from culture to culture.⁴⁶⁰ Individuals may therefore not perceive themselves to be engaging in fraud by asserting a familial relationship to someone with whom they lack a genetic tie. Furthermore, over the course of immigration proceedings, parents may discover that—despite their lived realities—they are not in fact their children's genetic relatives.⁴⁶¹ For example, one man who hoped to reunite with his sons after he became a United States citizen took a genetic test to verify his paternity.⁴⁶² The results revealed that only one of his four sons was his genetic relative. His deceased wife had most

455. See DNA-Sample Collection from Immigration Detainees, 84 Fed. Reg. 56,397, 56,397 (proposed Oct. 22, 2019) (to be codified at 28 C.F.R. pt. 28) (proposing to remove a DNA collection exemption for detained noncitizens).

456. DHS, CBP and ICE DNA Collection 1 (2020), <https://www.dhs.gov/sites/default/files/publications/privacy-pia-dhs080-detainedna-january2020.pdf> [<https://perma.cc/EY8S-K7TA>].

457. See Daniel I. Morales, Natalie Ram & Jessica L. Roberts, DNA Collection at the Border Threatens the Privacy of All Americans, N.Y. Times (Jan. 23, 2020), <https://www.nytimes.com/2020/01/23/opinion/dna-collection-border-privacy.html> (on file with the *Columbia Law Review*).

458. See *supra* notes 81–86 and accompanying text.

459. Abrams & Garrett, *supra* note 22, at 768–69.

460. See generally James Georgas, Int'l Assoc. for Cross-Cultural Psych.: Online Readings in Psych. & Culture, Family: Variations and Changes Across Cultures 1 (2003) (discussing the different definitions, structures, and functions of the family in different cultures and societies).

461. Kerry Abrams & R. Kent Piacenti, Immigration's Family Values, 100 Va. L. Rev. 629, 632 (2014).

462. Rachel L. Swarns, DNA Tests Offer Immigrants Hope or Despair, N.Y. Times (Apr. 10, 2007), <https://www.nytimes.com/2007/04/10/us/10dna.html> (on file with the *Columbia Law Review*).

likely had an affair. As a result, he could only bring his biological son to the United States. His three other sons, whom he had loved and raised, stayed in Ghana.⁴⁶³ Ironically, under domestic family law—which values social parenthood over biology in many cases—that man would have probably had to pay child support for those very same children.⁴⁶⁴

Importantly, once the government has a person's DNA sample, it could use that genetic material for other kinds of genetic tests. Thus, a sample collected for family reunification purposes could be tested for other things, including medical risk or genetic ancestry. Indeed, it is a very small step from testing for genetic familial relatedness to testing for national origin, ethnicity, and race. For example, in the United States, asylum applicants must establish a well-founded fear of persecution in their home country on the basis of at least one of five protected grounds: (1) race, (2) religion, (3) nationality, (4) social group, or (5) political opinion.⁴⁶⁵ Although not currently a practice in the United States, immigration judges and officials could view DNA ancestry tests as a relatively cheap and efficient way to verify asylum claims based on race or nationality.

Using DNA ancestry tests in this way presents opportunities for the government to discriminate—on the basis of race or nationality—against those seeking to enter the country. Although such discrimination is theoretically unlawful with respect to immigration visas,⁴⁶⁶ the United States has a long and regrettable history of adopting racist exclusionary policies,⁴⁶⁷ including President Trump's infamous 2017 Muslim travel

463. *Id.*

464. See Abrams & Garrett, *supra* note 22, at 790–92.

465. See 8 U.S.C. § 1158(b)(1)(B)(i) (2018) (providing that in the asylum application process, “[t]he burden of proof is on the applicant to establish that the applicant is a refugee within the meaning of [8 U.S.C. § 1101(a)(42)(A)]”); see also *id.* § 1101(a)(42)(A) (defining “refugee” as a person who is “outside [their] country of . . . nationality” and “unable or unwilling to avail [themselves] of the protection of[] that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion”); *id.* § 1101(a)(42)(B) (defining “refugee,” in special circumstances, as a person who is “within [their] country of . . . nationality” and “persecuted or who has a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion”).

466. See *id.* § 1152(a)(1)(A) (“[N]o person shall receive any preference or priority or *be discriminated against* in the issuance of an immigrant visa because of the person's race, sex, nationality, place of birth, or place of residence.” (emphasis added)).

467. U.S. immigration policy has a long history of discriminating against individuals on the basis of race and national origin, and biological tests have played a role in implementing past policies. See generally Gabriel J. Chin, Cindy Hwang Chiang & Shirley S. Park, *The Lost Brown v. Board of Education of Immigration Law*, 91 N.C. L. Rev. 1657 (2013) (discussing the line of Supreme Court cases in which the Court upheld Congress's Chinese exclusion laws and administrative policies that used blood-group testing to challenge the familial relatedness claims of Chinese migrants during the Cold War).

ban.⁴⁶⁸ Despite troubling implications of the ban, the Supreme Court upheld the third version of the policy in 2018,⁴⁶⁹ and in early 2020, the Trump administration expanded the travel ban to six new countries, four of which are in Africa.⁴⁷⁰ Critics have called the expansion unfounded and discriminatory.⁴⁷¹

As we have explained at length, genetic ancestry does not speak to social statuses. Thus, a DNA ancestry test is simply incapable of predicting an immigrant applicant's race, nationality, or social group. Moreover, the use of genetic ancestry tests for verification purposes could result in the discriminatory exclusion of people from countries dubbed socially undesirable, resulting in an immigration system reminiscent of that which employed eugenics-driven medical examinations at the beginning of the twentieth century.⁴⁷² Recent events in the United Kingdom and Israel, which we examine in the next section, highlight this potential.

2. *International DNA Immigration Policies.* — Both the United Kingdom (U.K.) and Israel have used genetic testing to verify a person's race or ethnicity for immigration purposes. Like the United States, the U.K. has an asylum program that provides refuge to individuals who face persecution in their home countries. In 2009, the U.K. Border Agency began an initiative called the "Human Provenance Pilot Project."⁴⁷³ Responding to perceptions that asylum seekers were falsifying their nationality,⁴⁷⁴ the British government instituted a pilot program to test the validity of asylum claims using genetic ancestry. Under the program, individuals who failed the language portion of the asylum screening could voluntarily provide cheek swabs, hair samples, and nail clippings for use in DNA ancestry tests and other forensic analyses.⁴⁷⁵

468. Proclamation No. 13,769, 82 Fed. Reg. 8977 (Jan. 27, 2017).

469. *Trump v. Hawaii*, 138 S. Ct. 2392, 2420–23 (2018).

470. The ban now extends to Nigeria, Eritrea, Tanzania, Sudan, Kyrgyzstan, and Myanmar (Burma). Geneva Sands, *Trump Administration Expands Travel Ban to Include Six New Countries*, CNN Politics, <https://www.cnn.com/2020/01/31/politics/trump-administration-travel-ban-six-new-countries/index.html> [https://perma.cc/4R2Q-CUHA] (last updated Feb. 22, 2020).

471. *Id.*

472. See L.E. Cofer, Assistant Surgeon Gen., U.S. Pub. Health Serv., *Eugenics and Immigration: Large Amount of Bad Breeding Prevented by Medical Examination of Aliens at Ports of Entry—Detection of Defectives More Thorough Now than Ever Before, Because of Decrease in Numbers Arriving*, Address Before the Young Men's Christian Assoc. of Wash., D.C. (Feb. 18, 1915), in 6 *J. Heredity* 170, 170–74 (1915) (describing the medical examination criteria used to exclude immigrants from the United States at ports of entry).

473. Christopher Delatorre, *Can DNA Prove Your Nationality?*, Singularity Hub (June 14, 2010), <http://singularityhub.com/2010/06/14/can-dna-prove-your-nationality/#more-16827> [https://perma.cc/98CV-Z5S7].

474. *Id.* ("The UKBA—responsible for securing the border and controlling migration in the UK—claims that falsifying nationality has been a particular problem for East Africans.").

475. See *id.* ("The Human Provenance Pilot Project was designed to test forensic samples voluntarily given by asylum seekers who failed language analysis testing."); see also

This experimental policy drew criticism from both scientists and human rights groups. Scientists described the project as “flawed,” explaining that nationality is a sociopolitical—not a genetic—category,⁴⁷⁶ and that genetic technologies could not track socially constructed categories.⁴⁷⁷ Moreover, they explained that results can sometimes be surprising and unexpected, such as when individuals who have parents from two different geographic regions receive results classifying them in a third region, from which neither parent came.⁴⁷⁸ One geneticist described some of the tests being used for the project as “little better than genetic astrology.”⁴⁷⁹

Human rights advocates likewise disapproved of the policy, believing it could lead to serious injustice by invalidating legitimate asylum claims.⁴⁸⁰ They were also concerned that asylum seekers—who often find themselves without legal representation—might feel compelled or be manipulated into sharing their genetic information. The British government defended the highly criticized initiative with a written statement that “[a]ncestral DNA testing will not be used alone but will combine with language analysis, investigative interviewing techniques and other recognized forensic disciplines.”⁴⁸¹ It maintained that a combination of these techniques “may indicate a person’s potential origin.”⁴⁸²

These critiques eventually led the U.K. Border Agency to terminate the ill-advised initiative. Immigration officials temporarily halted the program in October 2009, only to revive it in modified form in late

John Travis, Scientists Decry Isotope, DNA Testing of ‘Nationality’, 326 *Science* 30, 31 (2009) (“The Border Agency says only asylum-seekers who have already failed linguistic tests . . . will be asked to provide mouth swabs, hair and nail samples.”).

476. See Travis, *supra* note 475, at 30 (“[G]enes don’t respect national borders, as many legitimate citizens are migrants or direct descendants of migrants, and many national borders split ethnic groups.” (internal quotation marks omitted) (quoting David Balding)).

477. See *Genetics Without Borders*, 461 *Nature* 697, 697 (2009) (explaining that genetic testing, such as Y-chromosome analysis, SNP-based identifications, and isotopic analysis, cannot prove nationality or geographic origin).

478. *Id.*

479. Travis, *supra* note 475, at 30 (internal quotation marks omitted) (quoting Mark Thomas).

480. See Jamie Doward, DNA Tests for Asylum Seekers ‘Deeply Flawed’, *Guardian* (Sept. 19, 2009), <https://www.theguardian.com/world/2009/sep/20/asylum-seeker-dna-tests> [<https://perma.cc/R7Y7-S27C>] (“Many of those who seek asylum are two or even three generations removed from the country of origin of their parents and grandparents A Zimbabwean farmer fleeing persecution may possess the DNA of British relatives; would they be denied asylum on that basis?” (internal quotation marks omitted) (quoting Sandy Buchan of Refugee Action)).

481. Travis, *supra* note 475, at 31 (internal quotation marks omitted) (quoting U.K. Border Agency).

482. *Id.*

November 2009.⁴⁸³ The program ended in March 2010.⁴⁸⁴ In June 2011, the British government formally abandoned the effort entirely.⁴⁸⁵ Perhaps not coincidentally, in 2012, the U.K. adopted the Protection of Freedoms Act⁴⁸⁶ in response to the 2008 decision from the European Court of Human Rights, which held that keeping innocent people's DNA in a criminal database violated the European Convention on Human Rights.⁴⁸⁷ Pursuant to the Protection of Freedoms Act, only individuals who have been convicted of a crime will have their DNA profiles and fingerprints indefinitely retained.

We agree with the critiques of the Human Provenance Project. As we have argued throughout this Essay, DNA ancestry tests are flawed. Moreover, even if these tests could perfectly predict where a person was born, reliance on their results is still problematic. Like race, nationality is a fluid category, subject to variation and change. Locking in the place where someone was born as their "true" national identity raises many of the same concerns posed by conflating genetic ancestry with race. Just as a 100% accurate genetic ancestry test—which does not and may never exist—will never be a test for race, a 100% accurate genetic ancestry test will not be a test for nationality.

More recently, the Israeli government confirmed that it has used genetic tests to verify claims of Jewishness related to immigration.⁴⁸⁸ Israel's 1950 Law of Return provides that "[e]very Jew has the right to come to this country as an *oleh* [immigrant]."⁴⁸⁹ Although the law did not originally define who qualified as Jewish, a 1970 amendment clarified that "'Jew' means a person who was born of a Jewish mother or has become converted to Judaism and who is not a member of another religion."⁴⁹⁰

483. U.K. Home Off., UKBA's Human Provenance Pilot Project, GOV.UK (Oct. 14, 2010), <https://www.gov.uk/government/publications/ukba-s-human-provenance-pilot-project> [<https://perma.cc/D55N-NPXQ>] (responding to a freedom of information request).

484. *Id.*

485. Maria Cheng, UK Drops DNA Tests for Refugees and Asylum Seekers, *San Diego Union-Trib.* (June 17, 2011), <https://www.sandiegouniontribune.com/sdut-uk-drops-dna-tests-for-refugees-and-asylum-seekers-2011jun17-story.html> [<https://perma.cc/5SKR-H5CY>].

486. Protection of Freedoms Act 2012, c. 9 (UK), <http://www.legislation.gov.uk/ukpga/2012/9/introduction/enacted> [<https://perma.cc/UCU5-P4A3>].

487. *S. & Marper v. United Kingdom*, 2008-V Eur. Ct. H.R. 169; U.K. Home Off., Protection of Freedoms Act 2012: How DNA and Fingerprint Evidence Is Protected in Law, GOV.UK (Apr. 4, 2013), <https://www.gov.uk/government/publications/protection-of-freedoms-act-2012-dna-and-fingerprint-provisions/protection-of-freedoms-act-2012-how-dna-and-fingerprint-evidence-is-protected-in-law> [<https://perma.cc/7259-D462>].

488. Ian V. McGonigle & Lauren W. Herman, Genetic Citizenship: DNA Testing and the Israeli Law of Return, 2 *J.L. & Biosciences* 469, 470 (2015).

489. § 1, Law of Return, 5710–1950, LSI 4 114 (1949–50) (Isr.), https://www.nevo.co.il/law_word/law150/laws%20of%20the%20state%20of%20israel-4.pdf [<https://perma.cc/Z83Z-63TQ>].

490. § 4B, Law of Return (Amendment No. 2), 5730–1970, LSI 24 28 (1969–70) (Isr.), https://www.nevo.co.il/law_word/law150/LAWS%20OF%20THE%20STATE%20OF%20ISRAEL-24.pdf [<https://perma.cc/PLR8-GQFX>].

When Jewish people from the Soviet Union began to migrate in significant numbers to Israel in the 1990s,⁴⁹¹ Israeli government officials greeted them with skepticism.⁴⁹² Indeed, the Israeli Prime Minister's Office (PMO) instituted a policy that, to receive an immigration visa, a Russian-speaking person who was born outside of a marriage must take a DNA test to prove Jewish ancestry.⁴⁹³ However, the PMO was careful to explain that it was not asking for a genetic test for Jewishness but rather a "test to determine a family bond that entitles [the child to the right of return]."⁴⁹⁴ Thus, the genetic tests in question were arguably not being used to test for ethnicity but rather family relatedness, although that line could potentially blur. One set of scholars described the policy as "an attempt to develop an objective, scientific means of defining the boundaries of the Jewish population."⁴⁹⁵

Like the U.K.'s Human Provenance Pilot Project, Israel's use of genetic tests for immigration purposes has been met with criticism. One father whose daughter was denied a Birthright trip absent a genetic test "called the policy 'blatant racism toward Russian Jews.'"⁴⁹⁶ As noted, the policy was recently the subject of a legal challenge before the High Court of Justice.⁴⁹⁷ Several individuals filed a petition against the Chief Rabbinate and the rabbinical courts attacking the use of genetic tests to verify claims of Jewishness.⁴⁹⁸ Among the major duties of rabbinical courts is rendering decisions regarding whether a person is Jewish.⁴⁹⁹ The petitioners alleged that relying on genetic tests in those cases constituted discrimination. While the High Court disagreed, the majority opinion did instruct the rabbinate to issue formal written rules relating to genetic testing within a year.⁵⁰⁰ It is worth noting that statistics presented by the Israeli government indicate that the courts confirm most applications to corroborate Jewishness, making genetic testing relevant in only a handful of cases.⁵⁰¹ Interestingly, most objections to the policy seem to come from the alleged

491. McGonigle & Herman, *supra* note 488, at 473.

492. *Id.*

493. Asher Zeiger & Toi Staff, Russian-Speakers Who Want to Make Aliya Could Need DNA Test, *Times Isr.* (July 29, 2013), <https://www.timesofisrael.com/russian-speakers-who-want-to-immigrate-could-need-dna-test> [<https://perma.cc/3M5C-AZUD>].

494. McGonigle & Herman, *supra* note 488, at 474 (internal quotation marks omitted).

495. *Id.* at 470.

496. *Id.* (citing Toi Staff, Teen Told She Can't Join Birthright Without DNA Test, *Times Isr.* (July 28, 2013), <https://www.timesofisrael.com/teen-told-she-cant-join-birthright-without-dna-test> [<https://perma.cc/9UQS-XGNK>]).

497. Aaron Rabinowitz, Israeli High Court Allows DNA Testing to Prove Judaism, *Haaretz* (Jan. 23, 2020), <https://www.haaretz.com/israel-news/.premium-israeli-high-court-allows-dna-testing-to-prove-judaism-1.8439615> [<https://perma.cc/T82P-TD9G>].

498. *Id.*

499. McGonigle & Herman, *supra* note 488, at 473.

500. Rabinowitz, *supra* note 497.

501. *Id.*

targeting of Russians and Eastern Europeans and from reducing Jewish identity to a DNA test.

Thankfully, the United States has not yet adopted immigration policies that explicitly rely on genetic race. However, the current hostility toward immigrants from certain areas of the world and the widespread DNA collection at the border certainly make such policies a very real possibility. The infrastructure is already largely in place and precedent (albeit highly controversial) from other countries exists. We therefore strongly urge lawmakers and immigration officials to view these examples as cautionary tales and to avoid using DNA ancestry tests as a misguided proxy for racial, ethnic, or national identity. As with employment discrimination and race-conscious initiatives, DNA ancestry tests function as a poor proxy in the context of immigration.

* * *

As Part II describes, courts in the United States have historically used biological race to create and reinforce racist social hierarchies. While World War II led to the widespread rejection of scientifically verifiable racial categories, DNA ancestry tests may smuggle in biological determinations of race if adopted by courts as proxies for racial or ethnic identity. Although the kinds of harms that may result from genetic race that Part III describes are subtler than the blatant racism of the past, an overreliance on DNA ancestry tests is nonetheless deeply problematic. We therefore conclude in Part IV that courts and other decisionmakers should reject genetic ancestry as a proxy for race.

CONCLUSION

The DNA ancestry testing industry shows that Americans are curious about their genealogies and geographic origins. DNA ancestry tests have the potential to assuage this curiosity and to augment our understanding of the ways in which humans are interrelated. They certainly have meaningful potential benefits, such as connecting people with their genetic family members and helping genealogists fill in the missing branches of their family trees. Yet, as this Essay shows, a cautionary warning is in order. These tests reveal genetic ancestry, not race. As Part I explains, the results of DNA ancestry tests vary depending upon the size of a company's database and knowledge of human population genetics at the time. Because people of predominantly European descent make up most of the reference databases, people with non-European ancestry get less reliable results. It is therefore important not to take these results too seriously.

Beyond their technological and methodological limitations, DNA ancestry tests present considerable public policy challenges. Indeed, even if the tests were 100% accurate, they alone should not serve as a proxy for race. Because the tests are grounded in science, they reify biological

conceptions of race (i.e., the belief that race is created by nature and is genetically identifiable, static, and hereditary). Unsurprisingly, as Part II explains, biological conceptions of race have been used to create and justify racial hierarchies and racial subordination in the United States and elsewhere.

Biological race, however, conflicts with the predominant modern view of race as a social construction—as a concept that is structural, relational, contextual, temporal, and experiential. Under the social constructionist view of race, which this Essay adopts, Ralph Taylor and Cleon Brown are not Black based on their genetic ancestry alone. Indeed, as Part III explains, individuals who ground their racial identification and racial performances on DNA ancestry test results may be subject to accusations of racial fraud and cultural appropriation.

Racial identity claims based on DNA ancestry tests may also reinforce white privilege and instantiate existing racial hierarchies. Importantly, due to the the principle of hypodescent, this choice appears to be largely available only to whites. Whites ground their claims to Blackness on test results that indicate a small percentage of sub-Saharan ancestry. Yet, if Black people were to make a similar assertion (i.e., to claim whiteness based upon test results indicating a small percentage of western European ancestry), we posit that such claims would be greeted with skepticism. Thus, as has historically been the case, one can more readily move down rather than up in the U.S. racial hierarchy; access to whiteness remains elusive, and white identity continues to be more difficult to assume than nonwhite racial identities.

To conclude that DNA ancestry test results alone are inadequate proxies for race does not mean that individuals subject to discrimination based on these tests are without legal recourse. As we maintain in Part IV, Title VII and GINA ought to provide relief, as these statutory interventions are designed to prevent the foregoing discriminatory activity. To vindicate this objective, we maintain that courts should interpret the term “genetic information” in GINA broadly to encompass non-health-related tests. In Title VII disparate treatment claims, we contend that courts should cease requiring protected class membership as a prerequisite to bringing suit. Rather, they should focus on the essential factual question of whether an employer’s actions were motivated by race.

Some will argue that the analysis herein ignores the revolutionary potential of DNA ancestry tests to show that most Americans (and indeed most humans) are racially mixed and to thereby disrupt any notion of biologically distinct races. Yet, as we point out in section III.C, monoracialism has never been the reality in the United States. Moreover, the contention that multiracialism will end racism is belied by historical and contemporary evidence in countries where multiracialism has been publicly encouraged and widely recognized. In addition, recent scholarly research indicates that an embrace of multiracialism will neither obliterate racial distinctions nor end anti-Black bias and discrimination. It may

simply reconfigure existing hierarchies without eliminating structural barriers.

Looking to the future, we can readily imagine a number of contexts in which DNA ancestry tests will play an increasingly important role. Race-conscious initiatives and immigration law, which we consider in sections IV.B and IV.C, respectively, are only two such areas. School admissions and criminal investigations are others. As we venture forth, we hope that the analysis herein will guide and inform future discussions and will help to produce a world in which technological innovation and science will advance, rather than hinder, social justice.