# "THE FIXITY OF WHITENESS"

## *Genetic Admixture and the Legacy of the One-Drop Rule*

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**Abstract**

There has been increasing attention given to the way in which racial genetic clusters are constructed within population genetics. In particular, some scholars have argued that the conception of "whiteness" presupposed is such analyses is inherently problematic. In light of these ongoing discussions, this article aims to further clarify and develop this implicit relationship between whiteness, purity and contemporary genetics by offering a Foucauldian critique of the discourse of race within these genetic admixture studies. The goals of this article, then, are twofold: first, to unearth some of the presuppositions operative in this genetics discourse that make possible a biological conception of race; and second, to examine some of the social and historical origins of those presuppositions. To this end, this article provides a brief genealogy of racial purity beginning with its formal legal codification in the one-drop rule.

**Keywords:** genetic clusters, ancestry, whiteness, one-drop rule

Many scholars argue that biological races do not exist (Sussman 2014; Templeton 2014; Roberts 2011; Graves 2005). However, some contemporary population geneticists purport that racial classifications correspond to real biological distinctions and that some races are genetically more susceptible to certain diseases: African American women to breast cancer, African American men to prostate cancer and Mexicans to type-2 diabetes (Risch et al. 2002; Rosenberg et al. 2002; Palmer et al. 2013; SIGMA 2014; Han et al. 2015). These conclusions have sparked intense debate across multiple disciplines about the metaphysical, epistemic and ethical implications of a new science of race. Within these debates, some scholars have expressed concerns regarding the extent to which, if any, this new genetic understanding of race relies upon a number of problematic presuppositions about racial groups (Montoya 2012; El-Haj 2012; Pollock 2012). In particular, some have argued that this new genetics discourse on race is committed to a problematic notion of whiteness (Wailoo 2011; Roberts 2011; Rajagopalan and Fujimura 2012).

To elaborate, as Rajagopalan and Fujimura note, researchers claim that contemporary racial and ethnic groups are an admixture of multiple races. African Americans, for example, are a combination of African and Caucasian; and, as such, to represent the ancestral African line, samples are collected from peoples of sub-Saharan Africa who are thought to be historically isolated and therefore genetically unmixed (or, at the very least, mixed only to some minuscule degree) (Rajagopalan and Fujimura 2012). For Caucasians, however, no such complication arises and samples are collected from contemporary Caucasians, who as a group are thought to have remained largely unaffected by gene flow from other races. This, Rajagopalan and Fujimura argue, is a gross commitment to the "*fixity of whiteness*"—to the presupposition that whiteness is a rigid and permanent quality whose purity cannot be diminished (ibid., 152; author's emphasis).

In light of these ongoing discussions, this article aims to further clarify and develop this implicit relationship between whiteness, purity and contemporary genetics by offering a Foucauldian critique of the discourse of race within these genetic admixture studies. The goals of this article, then, are twofold: first, to unearth some of the presuppositions operative in this genetics discourse that make possible a biological conception of race; and second, to examine some of the social and historical origins of those presuppositions. To this end, I provide a brief genealogy of racial purity beginning with its formal legal codification in the one-drop rule. In section 1, I will briefly discuss the method of critique this article follows. In sections 2

and 3, I examine the presuppositions inherent in discussions of race within population genetics—section 2 focuses on race and genetic clusters, and section 3 on genetic admixture and ancestry. Following this analysis, in section 4, I offer a genealogy of racial purity beginning with the one-drop rule. The intention is to expose whether any continuity exists between the presuppositions of the one-drop rule and those of contemporary genetics. Finally, in section 5, I offer a few concluding remarks.

## 1. Critique, Discourse, and Genealogy

Before proceeding to the analysis, I will very briefly provide a few methodological notes about the style of critique this article adopts and a potential advantage that emerges from it.

A Foucauldian critique is concerned with analyzing the unique discourses, or "certain ways of speaking," of different disciplines at particular moments throughout history (Foucault 2010). As Foucault writes, "one cannot speak of anything at any time; it is not enough for us to open our eyes, to pay attention, or to be aware, for new objects suddenly to light up and emerge out of the ground" (Foucault 2010, 45). Rather, discourse constructs the topic by defining and producing objects of knowledge (Alcoff 2008). In turn, these objects of knowledge are meaningful to the extent that they operate stably within a discourse (ibid.). The purpose of Foucauldian critique, then, is to examine the underlying order of these discourses—to unearth the rules, systems and procedures that form particular discursive practices. Adopting this framework, this article seeks to understand the underlying structure that supports and maintains, and thereby makes possible, that particular discourse at that particular historical epoch.[1] As such, this article will be concerned, first, with exposing the set of presuppositions to which the contemporary discourses of genetics and race is necessarily committed; and, second, with examining the extent to which those presuppositions owe their emergence within contemporary genetics to the legacy of the one-drop rule.

### *Scientific Legitimacy and Scientifically Legitimation*

It will be useful to note here that employing this style of critique allows us to respond to the objection that critical projects on race and genetic simply fail to acknowledge the scientific legitimacy of contemporary genetics.

More specifically, the failure, so goes the objection, is either to recognize that the concepts of contemporary genetics are not the byproducts of an explicitly racist eugenics program, but of rigorous scientific analysis that concludes that they are statistically significant variables. Or, alternatively, that race, even if not biologically real, is a valid and useful category within genetic or biomedical studies operating under well-ordered scientific research programs (Spencer 2012). The problem, in short, is that critical projects fail to recognize the scientific legitimacy of the concepts they seek to critique.

Now, one advantage of a Foucauldian critique is that makes clear the distinction between scientific legitimacy, as a status bestowed upon a particular discourse, and scientific legitimation, or the set of presuppositions by virtue of which a discourse is designated as scientifically legitimate. That is, following Foucault's insights on the development of biology, this project understands scientific legitimacy as a historically situated criterion supported and maintained by a complex set of knowledge and power relations (Foucault 2012; Foucault 1998). As such, each historical epoch has its own conceptualization of scientific legitimacy that is itself defined, regulated and constructed by a specific set of historically contingent presuppositions. Those presuppositions set the standard of what can and cannot be designated as scientifically legitimate during the period.

Noting this distinction is particularly important for critical projects on race and science. To elaborate, consider the race sciences of the nineteenth and twentieth centuries. Using this distinction, we are able to recognize that although claims regarding the biological inferiority of nonwhites seem justifiably problematic from our contemporary perspective, such claims were scientifically legitimate within their own historical epoch. Such claims were a part of a scientific discourse made possible, precisely as a scientific discourse, by a particular form of power/knowledge operational at the time that legitimatized racist knowledge. The problem of the race sciences, then, was not scientific legitimacy, but rather the set of presuppositions that supported it and the power relations that helped construct it.[2]

Following this insight, this project is not concerned with questioning the scientific legitimacy of contemporary genetics studies.[3] It is not concerned, for example, with debating whether genetic studies demonstrate that racial groups constitute genetic clusters are valid or not (Spencer 2014; Glasgow 2009; Kittles and Weiss 2003). Indeed, this article begins with the acknowledgment that contemporary genetic studies on race are

scientifically legitimate. That legitimacy is precisely why philosophical critiques of the discourse, as opposed to reproaches by members of the scientific community, are necessary. Instead, the purpose is to gain greater conceptual clarity on the notion of race operative in these studies, focusing in particular on whiteness and purity. After all, even if those studies are valid, and a statistically significant correlation is found between two sets of observations, it remains nevertheless important to examine the concepts being employed by geneticists to label and describe their data and findings.

## 2. Genetic Racial Clusters[4]

The following will examine the use of race in contemporary population genetics. Specifically, the claim that the five races constitute genetic clusters, and in particular how the U.S. Census racial designations and self-identified race are employed to reach that conclusion. Section 3 focuses on genetic admixture, and in particular the construction of ancestral populations.

### *Racial Genetic Clusters*

As Risch et al. explain, distinct populations outside of Africa arise from one or more migration events from the continent within the last 100,000 years (Risch et al. 2002). At the genetic level, the most variation is seen within Africans, with those outside of Africa representing either subsets of that variation or newly arisen variants. Genetic differentiation among populations depends on degree and duration of separation from genetic ancestors: isolation and in-breeding strengthen such differentiation, while migration and inter-breeding reduce it. As such, if human populations mated randomly, then there would be no such basis; however, for geographic, sociological and cultural reasons (among others), distinct human populations have not and do not currently mate randomly, either globally or locally in the United States.

Most population genetic studies focus on human evolution and the genetic relatedness of indigenous people from various continents. These groups would not accurately correspond with traditionally defined racial groups found in the United States if genetic admixture between races either had occurred or is occurring to a significant degree. As Risch et al. further

note, "mating patterns are far from random. The tendency toward endogamy is reflected within the 2000 U.S. Census" (Risch et al. 2002, 332). The Census allows individuals to report themselves as either of a single race or mixed race; it provides six racial categories: (i) White, (ii) Black or African American, (iii) American Indian and Alaska Native, (iv) Asian, (v) Native Hawaiian and other Pacific Islander, and (vi) some other race. In the 2000 Census, 97.6 percent of respondents identified as belonging to a single race. Of this 97.6 percent, only 5.5 percent self-identified as belonging to 'some other race.' However, as Risch et al. further note, of this 5.5 percent, approximately 97 percent identified as Hispanics.[5] This provides further support for Risch et al. (2002) that "from both an objective and scientific (genetic and epidemiologic) perspective there is great validity in racial/ethnic self-categorizations" (ibid., 325).

Importantly, then, for Risch et al., the results from the Census and genetic studies entail that racial groups constitute distinct genetic clusters, or discrete populations distinguishable by a set of genetic markers due to shared ancestry (Jorde and Wooding 2004). Now, despite this claim, geneticists do not fail to recognize the historical impact of slavery and colonialism on the genetic makeup of contemporary racial groups. However, as Risch et al. remark, gene flow from non-Caucasians into the Caucasian population "has been modest" (Risch et al 2002, 330). Gene flow from Caucasians into African Americans, however, has been greater: "several studies have estimated the proportion of Caucasian admixture in African Americans to be approximately 17%, ranging regionally from about 12% to 23%" (ibid.). Asians and Pacific Islanders have been less influenced by admixture and thus more closely resemble their indigenous ancestral groups. Thus, while some admixture among the racial groups has indeed occurred, given the dominant trend toward intraracial breeding, the five racial groups nevertheless constitute unique genetic clusters.

However, because some admixture has occurred, a distinction must be made between present-day racial populations and ancestral populations that are posited as "isolated pure types" (Rajagopalan and Fujimura 2012, 148). For example, the ancestral African race is regarded as an unadmixed population, whereas present-day African Americans are described as an admixture of African (~70–80 percent) and Caucasian (~20–30 percent) (Bryc et al. 2015; Zakharia et al. 2009). Some studies also identify a marginal Native American ancestry—Baharian et al., for example, estimate a 1.2 percent of such ancestry among African Americans (Baharian et al. 2016).

*Race and History*

Now, before turning to the issue of purity and genetic admixture in the following sections, it will be crucial to examine the assumptions that underlie the claim that, historically, intraracial breeding was the norm. First, while contemporary groups may be genetically admixed, it is still possible to determine that there were five ancestral groups given the worldwide tendency toward intraraciality. Second, because the trend to interraciality is more recent, and influenced predominately by large-scale events such as colonialism and slavery, it is remains possible that unadmixed populations may still exist from whom samples may be collected. Third, given that the tendency toward intraraciality is still evident in the U.S. Census, appealing to the five races is scientifically and medically beneficial.

Importantly, if instead of the isolationist picture of human migration and civilization utilized by geneticists, greater migration and interbreeding between populations were taken as the norm, then the validity of this presupposition would quickly come into question. To be clear, I am not here suggesting a thought-experiment—there is evidence that substantial racial and ethnic mixture occurred throughout human history. For example, in Africa, there is a long history of racial mixing between Africans, Arabs and Europeans (Kamalu 2007; Haseeb 2012). Likewise, interracial relationships between Asians, especially Eastern and Southeastern Asians, and Europeans have occurred for centuries (Leupp 2003; Ocampo 2016). Throughout the Americas, interactions between European conquistadors and the indigenous people resulted in mixed-race children. Indeed, in Hispanic America especially, interracial relationships between Europeans, Native Americans and Africans produced complex racial hierarchies known as "castas" that designated specific names to particular mixtures: for example, "mestizos" were the offspring of a Native America and a European, "mulatos" were a mixture of European and African, and "zambos" a mixture of African and Native American (MacLachlan and Rodriguez 1990). Even the much shorter history of the United States is ripe with racial admixture. Indeed, as historian Henry Yu notes, "continual migration and biological admixture have been the rule rather than the exception in the U.S. history," and additionally "that this history of migration and mixture has been erased or distorted as much with theories of culture as with racial theories based on biology" (Yu 2002, 333).

Granted, relative to the 100,000 years of homo sapiens, such events are still recent. However, recollecting these histories is significant for several reasons: first, it highlights the extent to which interracial admixture

has been the social and cultural norm throughout the world for centuries, which in turn raises serious concerns about the legitimacy of presently discovering unadmixed ancestral populations. This, in turn, will have implications for understanding the implicit notion of Whiteness indicated by Rajagopalan and Fujimura (Rajagopalan and Fujimura 2012). Moreover, the import of this isolationist account is not merely in how it describes racial admixture in the past, but how it is re-employed to maintain a narrative of racial homogeneity within contemporary racial groups. As noted above, geneticists utilize self-reported racial identity and the U.S. Census categories as their starting point in categorizing individuals (Jorde and Wooding 2004; Risch et al. 2002). This appeal to the Census is striking because, in the United States, it is so commonplace to refer to oneself as being of a single race that the 2000 Census was the first to even include an option for 'mixed race.' (U.S. Census Bureau 2001). While the "mixed race" population grew by 32 percent between 2000 and 2010, only 2.9 percent self-identified as of more than one race during the 2010 Census (U.S. Census Bureau 2012). Now, in light of their presumption that intraraciality has been the historical norm, these results are observed by geneticists as a continuation of that norm. However, if, as I have suggested here, interraciality has been the worldwide norm for centuries (extending prior to European colonialism), then it becomes unclear whether the Census is merely tracking longstanding mating norms or reflecting the fraught history of racial classifications (and reclassifications) within the United States.

### 3. Genetic Admixture and Racial Purity

In the previous section, I examined the anthropological and historical evidence used by geneticists to support their conclusion that there exist five distinct racial clusters. Of particular interest was examining the underlying assumption of historical intraraciality. Here I will turn explicitly to the issue of genetic admixture, focusing in particular on how the ancestral African and Caucasian populations are constructed.

#### *Genetic Admixture*

As Rajagopalan and Fujimura note, to construct racial admixtures, two variables are necessary. First, genomic markers called ancestry-informative

markers (AIMs) are needed. AIMs are a subset of genetic markers known as SNPs, or single nucleotide polymorphisms, which are sites within the genome where variation between different peoples is observed. Second, because these genetic studies presuppose that contemporary races are, to varying degrees, admixtures of multiple races, ancestral populations are constructed to make the analysis possible (Rajagopalan and Fujimura 2012). As noted above, these ancestral populations are akin to "isolated pure types" that represent the unadmixed African, Caucasian, Asian, Pacific Islander and Native American races (Rajagopalan and Fujimura 2012, 148).

Genetic admixture studies utilize contemporary samples to estimate SNP frequencies and thereby select AIMs for their studies. As Rajagopalan and Fujimura further explain, genetic samples from those self-identifying as White are collected and labeled as "European Americans." These samples are taken as stand-ins for the ancestral European population. Meanwhile, because African Americans are thought to have ancestors from Western Africa, samples are collected from individuals from either Western or sub-Saharan Africa (ibid., 151). These samples are taken to represent the ancestral African population. In each case, SNP frequencies are estimated and used to represent their respective ancestral populations. Finally, AIMs are constructed by "by comparing the SNP frequencies they had constructed for 'ancestral European' and 'ancestral African' groups [and selecting] those markers with large frequency differences between the two 'ancestral populations'" (ibid.).

In this series of transformations, it is evident that researchers are committed to a genetic continuity between contemporary populations and ancestral ones. The assumption of intraraciality as a historical norm explains this commitment. Because contemporary Whites were for the most part genetically isolated, they still bear a genetic relatedness to ancestral Europeans. The same holds true for contemporary Western and Sub-Saharan Africans. Given the assumption of intraraciality, geneticists can avoid the issue of generational and geographic separation between contemporary and ancestral populations. As such, geneticists are able to "assume that SNP frequencies in contemporary 'European American' samples can be treated as equivalent to the frequencies in the 'ancestral European' peoples that supposedly contributed DNA to contemporary African Americans" (Rajagopalan and Fujimura, 2012, 148). Importantly, this further assumes both that European Americans have, despite interactions with other races, remained largely unchanged genetically, and that

the categories of "White" and "European American" are interchangeable. Rajagopalan and Fujimura further note that even the categories of "European" and "European American" are sometimes used interchangeably, "even though both of these so-called groups can be considered to be very heterogeneous in themselves" (ibid., 151).

As noted, this treatment of contemporary Whites as essentially unchanged from their ancestral counterparts constitutes for Rajagopalan and Fujimura, a commitment to "the *fixity of whiteness*" (ibid., 152; author's emphasis). Again, given the intraraciality assumption, it is expected that contemporary groups mirror their ancestral counterparts to a great degree. What makes the case of contemporary Whites peculiar, however, is that while they have remained largely genetically unchanged, other groups, such as African Americans, have seen their genetic make-up substantially changed from encounters with Europeans. As noted above, African Americans have approximately 20 percent Caucasian ancestry (Risch et al. 2002). But, what explains this one-directionality of gene flow? What explains the "the *fixity of whiteness*"? The rest of this article will concentrate largely on addressing this question by offering a genealogy of miscegenation and the one-drop rule in the United States. Specifically, it suggests that this assumed one-directionality is derivate of the social and legal codification of whiteness set forth by the one-drop rule.

### *HapMap and Race-Based Research*

However, before proceeding to this genealogy, it will be worth addressing a potential concern: specifically, it may be objected that Rajagopalan and Fujimura's description of how AIMs are constructed is too broad and does not take into account policy efforts intended to avoid exactly the kinds of gross assumptions their analysis highlights. For example, one commonly used set of population samples is provided by the HapMap—a haplotype map of the human genome being developed by the International HapMap Project (Genetics Home Reference, 2015). While the HapMap collects samples from several continents, it follows a strict and precise classificatory system. For instance, the HapMap collects samples from the Yoruba of Ibadan, Nigeria (ibid.). Although this population is sampled specifically because of the assumption that African Americans have ancestry from Western Africa, the HapMap is clear that the Yoruba do not represent the entire region or continent. As they note, "while not genetically 'atypical,' [these

population samples do] not necessarily represent all Yoruba people, whose population history is complex. The population should not be described merely as 'African,' 'Sub-Saharan African,' 'West African,' or 'Nigerian,' since each of those designators encompasses many populations with different geographic ancestries" (Coriell Institute for Medical Research, 2017). Instead, the HapMap recommends using the abbreviation "YRI" when referring to the sample. Similarly, the HapMap recommends that genetic samples collected from "Utah residents with ancestry from northern and western Europe" not be labeled "European," "Caucasian" or "White," but rather abbreviated CEU or CEPH (International HapMap Project, 2005).

Prima facie, then, these guidelines should curb the methodological errors that Rajagopalan and Fujimura identify. However, in the literature, these abbreviations and traditional racial classifications are routinely conflated. For example, in several studies, the HapMap samples are labeled as "European ancestry (CEU)" and "African ancestry (YRI)" (Jittikoon et al. 2016; Tao et al. 2016; Santos et al. 2016). Similarly, other studies identify the samples as "Caucasian (CEU)" (Partyka et al. 2015; Bush and Haines 2014; Prasad et al. 2012; Huang et al. 2009). Indeed, a 2014 study examining the genetic association between racial identification and Alzheimer's Disease used data from the Alzheimer's Disease Neuroimaging Initiative (ADNI) of subjects self-identified as "White" in conjunction with the CEU samples from HapMap—effectively treating the CEU samples as indistinguishable from those of self-identifying Whites (Sharp et al. 2014). To be clear, then, while the HapMap may provide guidelines that, if enforced, could avoid the problem Rajagopalan and Fujimura identify, in practice, the problem persists. The CEU/CEPH samples are taken to be representative of the ancestral European (or Caucasian) population, while the YRI samples are used to stand in for the ancestral African population. In treating contemporary Whites as genetically unchanged from their ancestral counterpart, these studies highlight the persistence of the "the *fixity of whiteness*." The question, now, is what explains this phenomenon?

#### 4. Genetic Admixture, Purity, and the One-Drop Rule

The treatment of Whites as genetically unchanged from their ancestral population is troubling. Indeed, given their historical interactions with other populations, most notably Africans and Native Americans, it is striking that

the only genetic residuals of these engagements are to be found in other populations. This section will concern itself with why this presupposition persists. Specifically, I posit that examining the history of the one-drop rule may provide useful insight into understanding the presupposition that contemporary Caucasians are genetically unchanged from their ancestral population.

### *Racial Mixture in the Eighteenth and Nineteenth Centuries*

Interracial relationships occurred both prior to and during the centuries of the slavery in the United States. For example, by the late eighteenth and early nineteenth century, the offspring produced by interracial relationships poised a considerable problem to the social structure in Virginia. While the norm had been to regard those of darker complexions as naturally inferior, by then, "Europeans and Africans had become so genetically intertwined that the visual cues white Virginians depended on to distinguish people believed to be 'negro' or 'mulatto' from 'white' occasionally failed them" (Rothman 2003, 9). As such, the public race discourse evolved to include categories such as "white negro," "mixed blood" and "socially white" (ibid.).

Legally, however, these categories presented serious challenges for lawmakers as many laws and regulations varied depending on whether or not the person was White or Black. For example, in 1785, Virginia enacted a law that made Blacks and 'mulattoes' unable to testify against a white man in court (Rothman 2003). Similar laws, commonly known as the Black Codes, were enacted throughout Southern states following the Civil War and were meant as a way of restricting the social, economic and political power of freed Blacks (Palmer 2006). Now, to be clear, states like Virginia had established legal definitions for those of mixed-race; however, lack of evidence sometimes made enforcing those definitions difficult. For instance, in 1822, Virginia law stated that for a person to be mulatto, s/he must have at least one-quarter of African ancestry (Saldivar 2014). Because such laws made defining a person's race a genealogical project wherein friends, relatives and members of the community had to attest to a person's racial background, such laws were unable to delineate rigid classifications.

By the 1850s, White Virginians began demanding for clear laws to distinguish Whites from Blacks. As Rothman writes, "white preoccupation with 'blood,' racial purity and a strict color line escalated amid the intensifying sectional crisis and the efforts of people of mixed ancestry to exploit

racial ambiguity to their advantage. Especially in Richmond, editors and municipal authorities began calling for the attachment of new and extraordinary levels of exclusivity to whiteness in law, and state lawmakers joined the public debate" (Rothman 2003, 206). The notion that those of African descent could beget children able to cross the color line and enjoy the same rights and privileges as Whites was seen as a threat to the socioeconomic order defined by racial discrimination.

### *The One-Drop Rule*

While Tennessee became the first state to codified into law the "one-drop rule" in 1910, by the end of the nineteenth century, Jim Crow segregation had already been established (Sweet 2005). From its inception, Jim Crow laws relied heavily on miscegenation laws to maintain clear distinctions between Whites and Blacks. As F. James Davis writes, "The one-drop rule and the symbol of white womanhood, which meant no sexual contact between white females and black males, were crucial to the perpetuation of the Jim Crow system" (Davis 1995, 123). He continues, "Mixed-race children in white homes were not tolerated because, as under slavery, they threatened the system" (ibid.). The solution, then, was to re-identify anyone of mixed-race as Black, thereby ensuring the stability of the system.

Now, to be clear, such miscegenation laws were contested by some politicians in the late nineteenth century. For example, according to one report, George Tillman, a Democratic politician from South Carolina, argued in 1895 that, it is a "scientific fact that there was not a full-blooded Caucasian on the floor of the Convention. Every member had him a certain mixture of Mongolian, Arab, Indian or other colored blood" (Rogers 2014, 367). Nevertheless, while such claims may have been accurate, maintaining white supremacy required no ambiguity between the races; and, because the racial discourse of the era operated upon a strict dichotomy of White or Black, it required establishing racial purity as the criterion for whiteness. Thus, the 1920 Census, adopting the one-drop rule, defined White as follows: "The term 'white' as used in the census report refers to person understood to be pure-blooded whited. A person of mixed blood is classified according to the nonwhite racial strain or, if the nonwhite blood itself is mixed, according to his racial status as adjudged by the community in which he resides" (U.S. Census 1922, 10). By the 1930 Census, the category for 'mulattoes' was no longer included, as it had been since 1850 (Hickman 1997).

During Jim Crow segregation, the one-drop rule had clear political implications. For example, in Virginia, Walter Plecker, who drafted and lobbied for the Racial Integrity Act of 1924 and the one-drop rule in the state, argued that maintaining racial purity among Whites was necessary for preserving the stability of the nation. As he wrote, "The white race in this land is the foundation upon which rests its civilization, and is responsible for the leading position which we occupy amongst the nations of the world" (Plecker 1924, 114–115). Interracial relationships threatened this foundation by introducing the inferior qualities inherent in nonwhite blood into the White population. To avoid this, not only was racial segregation necessary, but additional work was required to ensure that any family with nonwhite blood, regardless of how little, was removed from the proximity of Whites. Because of this, throughout the 1930s and 1940s, Plecker, who was notably also the first registrar of Virginia's Bureau of Vital Statistics, had the racial classification of many self-identifying whites (including whole families) changed to Black, if any evidence suggested African ancestry (Egloff and Woodward 2006). Maintaining the one-drop rule, then, was not only about regulating the social, economic and political rights of whiteness, but of managing the health and protecting the health of the population—it was concerned with a biopolitics that sought to safeguard the vital and productive forces Whites from racial decay (McWhorter 2009; Sullivan 2012).

There are four important points to emphasize here: first, the category of Whites is redefined such that only those with "no trace whatsoever of any blood other than Caucasian" could be included (Johnson 2003). As the eugenicist Madison Grant wrote, "The cross between a white man and a Negro is a Negro; the cross between a white man and a Hindu is a Hindu" (Grant 1916, 18). Second, those of mixed race are now classified according to either their greatest degree of nonwhite ancestry or their social classification (as long as it is as a member of a nonwhite group). Third, all races, except Caucasian, now admit of degrees; however, these degrees do not significantly impact one's claim to belonging to a given nonwhite population. That is, an African American, for example, with parents and grandparents of African ancestry is regarded, for the purposes of the Census and by the logic of the one-drop rule, as being biologically and/or socially no different than an African American with grandparents of Caucasian ancestry. Fourth, while social factors may be used to define one's racial category, those are secondary to the degree of 'blood' and ancestry. Such details are merely additional information that may be used to sort out difficult cases

of 'mulattoes.' This, however, should not be surprising given that the one-drop rule was intimately tied with eugenic ideas of racial purity.

*The One-Drop Rule and Genetic Admixture*

Historically, then, in the United States, there has been an overarching concern to maintain the exclusivity of one's claim to Whiteness. The discourse of the one-drop rule stipulated that Whiteness was a zero-sum game wherein only those free of nonwhite blood could, not only legally, but biologically identify as Caucasian. Examining the history of the one-drop rule has several implications for contemporary claims regarding genetic admixture and whiteness.

First, the genetics discourse on race begins by noting that racial hegemony is reflected by U.S. Census data (Risch et al. 2002). However, that trend is deeply influenced by the decades of enforcement of the one-drop rule that forcibly classified those of mixed-race into a single nonwhite category. The U.S. Census, then, does not reflect a tradition of racial hegemony, but the exclusion and erasure of multiracial and multiethnic peoples. To this point, it should be noted that the one-drop rule, while undeniably important, is only one aspect of this erasure. As Hochschild and Powell note, the 1924 Immigration Act ended the Census recording of mixed parentage among Whites while likewise making it no longer necessary to add new Asian nationalities, and to even delete a few; and the Indian Reorganization Act of 1934 made recording the individual racial characteristics of Native Americans unnecessary (Hochschild and Powell 2008). In light of these legislative efforts, "The racial order settled on a few mutually exhaustive and exclusive categories—white, Negro, Indian, and several Asian nationalities" (ibid., 87). Any appeal to the racial classifications of the Census is, at the same time, an appeal to categories strategically manipulated to ensure the continuation of White supremacy. Far from a proof of intraraciality, the Census stands as a silent testament to the efforts of the United States to erase the longstanding history of interracial relationships in this country.

Relatedly, second, the five races of the U.S. Census are constructs derivative in large part from one-drop rule and its legacy. It is the reason why, say, Whites of varying European ancestry can nevertheless be grouped as a single race, as opposed to sub-divided into smaller units (based on nationality, for example). Its legacy is, likewise, a significant reason why the vast majority of U.S. Americans identify themselves as belonging to

a single racial group today. This point is worth emphasizing because, as noted above, genetic clusters are grouped based on genetic commonalities; however, the exact number of clusters is arbitrary. Instead of five clusters, geneticists could select six clusters. In fact, one study found that clustering populations into six group resulted in a genetic cluster consisting "largely of individuals of the isolated Kalash group, who speak an Indo-European language and live in northwest Pakistan" (Rosenberg 2002, 2382). The greater the number of clusters, the greater the degree of genetic similarity. However, geneticists keep to five because it produces clusters that roughly correlate with the racial designations set forth by the Census and commonly used in the United States (ibid.). While geneticists may view these categories as convenient, and while its use may even yield certain social benefits, in using them, geneticists are introducing into their studies categories that have been crafted with the specific intent to maintain a structure of white supremacy. In including these categories, geneticists risk likewise including those presuppositions historically tied to those categories—presuppositions that, as noted above, seem to already be operant in the genetics discourse.[6]

Third, geneticists treat contemporary Whites as genetically unchanged from their ancestral population. Given that these studies rely on both the self-identified race of U.S. Americans and the U.S. Census categories, the presence of this commitment becomes clearer. The one-drop rule reinscribes whiteness as a permanent unchanging feature of an individual. That is, while others may possess some degree of White ancestry, they are not themselves White unless their entire ancestry leads back to Europe. Under the logic of the one-drop rule, any person self-identifying as White would necessarily be genetically identical to members of the ancestral European population—that is simply what being White means. Meanwhile, all other races are admixtures; however, these may be regarded as a single category, as in the case of African Americans, because they have an approximate degree of genetic similarity. Again, under the one drop rule, if one is of mixed descent, then one's race is defined by one's greatest quantity of nonwhite ancestry. These are the same set of presuppositions evident in many contemporary genetic studies on race.

Fourth, the history of the one-drop rule and miscreation laws is, in addition, a history of sexual violence against women of color by slave masters and conquistadors (Ifekwunigwe 2004). For this reason, evidence of gene flow into, for example, the African genetic pool by Caucasians is understandable.

However, in treating contemporary and ancestral Caucasians as equivalent, geneticists posit a one-directionality to this flow, which seems to further assume that maintaining the purity of the race depends entirely on women. That is, a racial group becomes "admixed" if the women beget children with men from a different race. Men, therefore, can diminish the purity of other races, but cannot be themselves the cause of their own race's "depurification." If Caucasians have remained genetically unchanged, then, it is because White women have not produced mixed-race children, or at least not to a significant degree. Such a presupposition both recall old tropes of the purity of White womanhood, and ignores the actual history of sexual liaisons between White women and Black men (Hodes 2014).

## 5. Conclusion

Given the history of race and science, there are strong prima facie reasons to be skeptical about a new science of race (Yudell 2014; Sussman 2014; Roberts 2011; Wailoo and Pemberton 2006). As Gannet argues, "That genome diversity is statistically distributed across populations of *Homo sapiens* and that biological anthropologists and human population geneticists have embraced 'population thinking' offer no guarantee that human genome diversity research will be non-racist. Nor are empirical 'facts' that demonstrate 'fundamental' biological unity and genetic heterogeneity in *Homo sapiens* sufficient to eliminate biological racism" (Gannet 2001, S490–91). However, one must acknowledge from the outset that the mere inclusion of race as a category of interest does not therefore make contemporary population genetics racist. Instead, what is required is a critical perspective that examines the underlying assumptions on which the inclusion of race is grounded. It is the extent to which that discourse requires, as the condition of its possibility, problematic presuppositions about racial groups that must be determined.

This article has attempted to unearth some of these presuppositions, focusing on the issue of whiteness and purity. In doing so, this article has not sought to delegitimize the scientific methodologies employed by these studies, but rather to expose areas of concerns within the genetics discourse. The goal here is not to villainize the geneticists or biomedical researchers who use these concepts, but to encourage a critical dialogue that ensures that scientific abuses against people of color no longer persist.

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## NOTES

1. This extending of Foucault's genealogical framework from the human sciences to the "hard" science of genetics is not without some difficultly. After all, the question of scientific legitimacy will differ greatly when examining the biological sciences as opposed to psychiatry. However, as Foucault himself notes, the development of scientific knowledge is guided by "a body of anonymous, historical rules, always determined in the time and space that have defined a given period, and for a given social, economic, geographic, or linguistic era" (Foucault 2010, 117; Alcoff 2008, 217). As such, while the hard sciences may operate differently at the level of discourse, it remains possible to critique the system of rules and regulations on which their discourses rest.
2. Of course, it is still possible to criticize the scientific legitimacy of the race sciences. However, such criticism would be anachronistic as the basis for the objection would be the failure of the race sciences to meet the contemporary standards for scientific legitimacy. While this is an important objection, it remains equally important to maintain that, within its own historical present, the race sciences were scientifically legitimate. While unsettling, this acknowledgment is central to understanding both how dangerous and intimately entangled within White supremacy the race sciences were.
3. There is, of course, an extensive literature that challenges the scientific legitimacy of these claims. Some noteworthy examples include Braun et al. (2007); Maglo et al., (2016); and Valles (2016).
4. The genetics literature on race is vast and offers a number of methodologies for examining the biological and biomedical significance of race. For the sake of brevity, in this section, I only present one such avenue of analysis in some detail. That said, given the use of self-identified race and the racial categories of the U.S. Census found throughout these studies, I contend that an analysis of the presuppositions found in this early study by Risch et al. will have clear implications for the wider literature.
5. To elaborate, from a genetics perspective, Hispanics do not constitute a race as they fail to form a distinct genetic cluster: Mexican Americans, for example, are largely a mix of Caucasian and Native American ancestry, whereas Caribbean Hispanics have a greater proportion of African ancestry. As such, most of the 5.5 percent were referring to their ethnicity, not racial group (Risch et al, 2002, 331).
6. The use of these racial categories has sparked intense debate concerning whether these human populations should be classified according to ancestry as opposed

to race (McPherson, 2015; Fujimura and Rajagopalan, 2011; Race, Ethnicity, and Genetics Working Group, 2005). While such a substitution may be helpful, it is crucial to keep in mind that these discourses operate within a network of presuppositions. A change at the level of discourse may not necessarily rid contemporary genetics of any problematic presuppositions, especially if those presuppositions are not identified from the outset.

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