

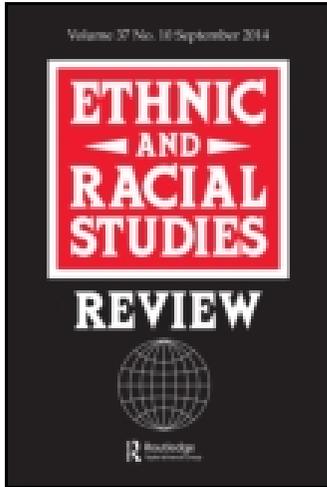
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### And you thought we had moved beyond all that: biological race returns to the social sciences

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## GUEST EDITORIAL

# And you thought we had moved beyond all that: biological race returns to the social sciences

Ann Morning

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Recently, sociologists have argued in high-profile journals that racial categories are linked to genetically distinct clusters within the human population. They propose theorizing race as a socially constructed categorization system that is related to biological groupings within our species. This work overlooks, however, the extent to which statistically inferred genetic clusters are themselves socially constructed, making it impossible to juxtapose ‘subjective’ social categories with ‘objective’ biological ones. This editorial urges social scientists to take a critical look at claims about the genetic underpinnings of race, and to contribute their insights to ongoing debates about the nature of race.

**Keywords:** classification; biology; gender; genetics; science; statistics

### Introduction: biological race returns to the social sciences

When I began work on the dissertation research that would become *The Nature of Race: How Scientists Think and Teach about Human Difference* (Morning 2011), more than one senior scholar was sceptical of my project. I aimed to explore the ways in which contemporary biologists and anthropologists conceptualized race, but some of my advisers suspected that there would be no variety to describe. ‘Everybody knows race is a social construct,’ they argued.

More than ten years later, however, two highly respected journals have recently published work by sociologists that links races to biological groupings. These articles lend new scientific credence to ideas that were formerly lurking in the academic margins,<sup>1</sup> and I suspect they are

harbingers of more to come. Biological data and methods seem poised to play a growing role in the social sciences, and despite their proponents' best intentions and fruitful contributions, they may bring some unwanted baggage with them. When the American Sociological Association (ASA) held a session on 'Interrogating Contemporary Genetics and its Potential Contribution to Social Science' at its 2013 meetings, for example, 'race' was in no way featured on the programme, yet every speaker brought it up. This suggests that as sociobiology gains a larger foothold in our discipline, it will usher in renewed debate about the relationship between race and biology. That is the American way, and given the predominance of the USA in scientific production worldwide, it will be a phenomenon that scholars well beyond North America will confront.

### **A genomic challenge to the social construction of race?**

In 2012, sociologist Jiannbin Lee Shiao and co-authors Thomas Bode, Amber Beyer and Daniel Selvig argued in the pages of ASA journal *Sociological Theory* that the constructivist perspective on race should be amended in light of new findings from the field of human genetics. As they put it, the prevailing theory that race is a social construct 'lack[s] biological reality' (Shiao et al. 2012, 67, 69) and is 'unnecessarily burdened with ... a conception of human biological variation that is out of step with recent advances in genetic research' (68).

What new genetic knowledge did Shiao et al. believe had repercussions for racial constructivism? They focused on a subset of writings by geneticists and statisticians in the period 2000–2007 that proposed and scrutinized methods for identifying genetically distinct groupings within the human species. Usually labelled 'clusters' (although Shiao et al. prefer to call them 'clinal classes'), these statistically inferred groups were equated by a few scientists with races and even ethnic groups (e.g. Burchard et al. 2003; Risch et al. 2002). However, most of the contributors to this literature did not treat genetic clusters as races (although see Fujimura and Rajagopalan 2011), and some strongly rejected such a linkage. Based on their study of genetic variation at drug-metabolizing enzyme loci, Wilson et al. (2001, 266) for example contended that 'commonly used ethnic labels (such as Blacks, Caucasian and Asian) are insufficient and inaccurate descriptions of human genetic structure'. Similarly, Serre and Pääbo (2004, 1679) argued that there is 'no reason to assume that major genetic discontinuities exist between different continents or "races".'

In its February 2014 issue, the Population Association of America journal *Demography* published an article by Guo, Fu, Lee, Cai, Mullan Harris and Li entitled 'Genetic Bio-Ancestry and Social Construction of Racial Classification in Social Surveys in the Contemporary United

States'. Although Guo et al. (2014) do not cite the earlier *Sociological Theory* publication, they share Shiao et al.'s (2012) desire to connect human genetic traits to racial categories. However, rather than rely on a human genetics literature that rarely draws such an explicit link, Guo et al. conduct their own empirical analyses of genomic data. In particular, they use the STRUCTURE program applied by geneticists to detect population clusters (Pritchard, Stephens, and Donnelly 2000) to calculate measures of 'African ancestry' and 'European ancestry' in two samples of US youth, and then contrast these genetic indicators with the surveyed individuals' racial self-identification. The results show, they write, 'how social forces trump biology in racial classification and/or how social context interacts with bio-ancestry in shaping racial classification' (Guo et al. 2014, 141).

Neither Shiao et al. (2012) nor Guo et al. (2014) make a simplistic claim about social racial categories mapping directly on to inferred genetic clusters, but they come perilously close at times, as when the latter group reports having 'replicate[d] the match between genetic bio-ancestry and self-reported race' (Guo et al. 2014, 142). Similarly, Shiao et al. may appear at first glance to argue that geneticists have discovered biological human subspecies that correspond to US official racial categories. After all, they draw heavily on a survey article that asserts that 'population genetic studies have recapitulated the classical definition of races based on continental ancestry – namely African, Caucasian (Europe and Middle East), Asian, Pacific Islander ... and Native American' (Risch et al. 2002, 3).

Ultimately, however, both teams posit biological groupings as an input into social categorization schemes, not as a mirror or complete determinant of them. Guo et al. (2014, 142), for example, describe 'geographic bio-ancestry as a component of racial classification'. Of course this argument comes as no surprise, let alone as the 'genomic challenge to social constructivism' that Shiao et al. (2012, 67) envision. Are we not already aware that knowledge of an individual's geographic ancestry and/or interpretation of their genetically rooted phenotypic characteristics play major roles in their assignment to one racial category or another? Consider this definition of 'race' from a 2001 introductory sociology textbook: 'a category of people who perceive themselves and are perceived by others as distinctive on the basis of certain biologically inherited traits' (Calhoun, Light, and Keller 2001, 241).

Instead, what is noteworthy in these sociologists' formulations is the assertion that even though the racial and ethnic categories that we live by are social constructs, in contrast to these there exist 'objective', genetically distinct clusters of human beings that we can impartially measure, and that serve to some degree as templates for our sociopolitical labels. As Shiao et al. (2012, 72) put it, genetic clinal classes are 'the biological counterpart to socially constructed race/ethnicity'; they reflect the objective, natural, biological 'measurement of ancestry' (79) compared to the subjective,

constructed, social ‘perception of ancestry’ (77). Guo et al.’s (2014, 142) interest in ‘how racial self-classification departs from bio-ancestry because of socio-contextual influences’ is also quite telling; in this view, racial categories are what you get when social forces deform our apprehension of biological ancestry. And it offers a logically compelling conceit: we can only know how ‘social’ our categories are by subtracting from them what is biological; the social comes into play where biology leaves off, and now, thanks to advances in genetics, we can partition the two.

As Shiao et al. (2012, 72) acknowledge, this theoretical dichotomy between socially constructed ‘race’ and genetic ‘bio-ancestry’ echoes ‘the feminist distinction between biological sex and socially constructed gender’. But here feminist scholarship offers a different lesson than the one taken by the authors: namely that in fact, our very best, most earnest approximations of the natural world are always shot through with the social (see e.g. Harding 1986; Martin 2001; Schiebinger 1993). As the developers of statistical methods for identifying human genetic groupings are the first to admit, scientists’ practices and presumptions directly influence the categorization schemes that they construct (Pritchard, Stephens, and Donnelly 2000; Rosenberg et al. 2005; Serre and Pääbo 2004). Human decisions about the sampling of individuals, their geographic location, the type and quantity of genetic information analysed, the level of resolution desired, as well as assumptions about human evolutionary history including migration and admixture all have an impact on which clusters – and how many – statistical analyses produce (Bolnick 2008). In short, the clusters that we infer statistically are beholden to cultural beliefs about groups, similarity and difference as the sociopolitical classifications enshrined on the US census. Although the ‘social race’ versus ‘biological cluster’ binary might be of theoretical use in the abstract, the fundamentally social nature of both our perceptions and our measurements means that we can never know how much if at all our racial categories reflect objective patterns of genetic traits in our species. Since our inferences about biological groupings are informed by our cultural beliefs about human difference, it is impossible to gauge how close or how far our racial classifications are to any independent reality of clusters, classes or clines.

The view that our constructed racial groupings, like those on the US census, spring from underlying biological characteristics reflects a profound misunderstanding of the history and nature of race. To presume that races are biological categories that get mistranslated in the social sphere is to get the direction completely backwards. Races originate instead as sociopolitical categories that lead to the search for and construction of hackneyed biological classifications. Racial groupings are rooted in political and social rumination – they are not the product of laboratory discoveries that only later get caught up in power relations. As sophisticated as contemporary genetic analyses may seem, we must not

forget that geneticists are not in the driver's seat when it comes to developing ideas about race. As was true of the cutting-edge sciences of the past – like taxonomy, craniometry, anthropometry and serology – which were called in to corroborate the biological 'realities' of race, when it comes to race, genetics is for all its bells and whistles simply another handmaiden recruited to bolster an eighteenth-century European world view: the notion that there 'really' are black people and white people, yellow people and red people, independent of any cultural biases or proclivities that we might have.

### **Thinking sociologically about race and genes**

By importing methods and findings from human genetic research into social science, authors like Shiao et al. (2012) and Guo et al. (2014) lay a new path for reflecting on the relationships between racial and biological claims. Preceding them, however, is an insightful body of social studies of scientific production that cautions great care when scrutinizing arguments linking race to biology, and outright scepticism when it comes to the notion in particular that racial categories are rooted in natural, objective biological characteristics.<sup>2</sup> Yet, if biological data and analysis become more prevalent in the social sciences, the connection between genetics and social categorization will become one with which sociologists well beyond scholars of scientific knowledge will have to contend. Not only should we be prepared to engage in such debates, but we should understand that engagement as a service to scientists across the disciplinary spectrum. Scholars working in this area cannot be allowed to lose sight of the fact that our categories are always ones that we fashion; they are not simply 'out there', as race still too often purports to be. As the sociology of scientific knowledge has repeatedly demonstrated, our beliefs and ways of seeing the world – think of Fleck's (1979 [1935]) 'ideovision' – shape what we 'discover' there, even when we think we are simply taking objective measurements and conducting impartial analyses. Today's claims about races somehow arising out of biological groupings tell us less about our bodies than they do about the tenacity of a centuries-old search in the West to attribute social inequality to forces outside the social sphere.

Yet, social scientists may hesitate to weigh in on claims about genetics and race for several reasons. One of these is the sense that their lack of formal training in biology rules out their intervention. This fear is exacerbated by the late twentieth-century shift from grounding definitions of race in easily observed phenotypic characteristics to basing them on genetic signatures (Morning 2011; Reardon 2005). The attendant language (of haplotypes and single nucleotide polymorphisms [SNPs], for example), theoretical knowledge (say of Hardy-Weinberg equilibrium) and methodological sophistication (with large and complex data sets requiring new

computing capacities and statistical techniques), all make the scholarly literature on human genetics much more daunting than the photographic taxonomies of 'The Races of Man' that populated biology textbooks in the 1950s (Morning 2008). This transformation in the conceptualization of the nature of race has resulted in its scientific 'black-boxing' (Latour 1987), turning the supposed elements of race into a mystery for non-biologists and barring their deliberation on what race is. Although scientific jargon or insider knowledge is hardly new to debates about race, the move to genetic accounts of race locates it in bodily traits that are no longer visible or familiar to everyday people. In the past, race was supposedly dictated by skin colour and eye shape, bone length and blood type: all facets of the body known even to children. And although race was never as visually obvious as we are led to believe (Obasogie 2014), understanding of its ostensible roots did not require mastery of specialized knowledge like molecular biology. When claims about racial membership repose on genomic science, however, who but the very few can assess and challenge them?

The genetic black-boxing of race is all the more complete because it identifies the more prestigious natural sciences as the ultimate arbiters of the nature of the race, to the exclusion of the social sciences. In this academic environment, where biologists ostensibly have stronger 'scientific' credentials because of their supposed superior competence and adherence to scientific principles and virtues, it is no surprise that social scientists may feel that their expertise is of lesser value and they themselves are less qualified to intervene. After all, biologists do not seem to feel the need to draw on the insights of sociohistorical scholarship in order to make pronouncements on the nature of race (see e.g. Burchard et al. 2003; Risch et al. 2002). Witness, for example, the spectacle of Nobel Prize-winning geneticist James Watson feeling confident enough to tell a journalist that 'all the testing' shows that Africans' intelligence is not 'the same as ours' – adding for good measure that 'people who have to deal with black employees' find this to be the case (Nugent 2007).

Finally, social scientists' fear to tread in the realm of race and genetics is no doubt also heightened by the 'forbidden knowledge' accusations that proponents of biological race theories like to field against those who disagree with them. As described by Reanne Frank (2012, 316), 'this powerful rhetorical argument misleadingly casts geneticists' writings on race as seeking objective truths, while portraying all skeptics as motivated by unscientific fears, passions, and politics'. This variant of Gieryn's (1999) scientific boundary-marking is not used only by biologists; both Shiao et al. (2012) and Guo et al. (2014) try their hand at it. The former group reports that the 'new advance' supporters of genetic race models, whose work they draw on heavily, 'argue that the time for fear of biological realities ... has passed' (Shiao et al. 2012, 68). The latter team admonishes that 'a socially influenced definition of race need not preclude

any logical basis for race/ethnic classifications' (Guo et al. 2014), 142). In both comments the writers align themselves with 'reality' and 'logic', while those who reject the equation of races with biological groupings are associated with emotion ('fear') and 'social influence'.

Misgivings about the place of the social sciences in debates about the nature of race, however, are completely unfounded. Instead, disciplines like anthropology, sociology and history are especially well placed to critically assess the racialization of new biostatistical constructs. Sociology's questioning of sample construction and bias, for example, coupled with historical knowledge of the social origins of classifications, measurements and, well, knowledge, take us right to the fundamental issues that need to be raised when considering what if anything statistical analyses of genetic data can tell us about 'natural', objective populations in the human species.

Indeed, one of the most productive outcomes of the biology-sociology dialogue that Guo, Shiao and others would like to foster might be precisely a greater willingness on the part of social scientists to scrutinize claims about human difference that are grounded in the biological sciences. This will mean carefully evaluating different kinds of argument, for they are not all the same, and assessing what if anything is useful about them for social science. In recent years, for example, many analyses have been devoted to discerning the genetic traces of varied human migration or admixture processes for which the historical record has already provided ample evidence. In this vein, a recent article entitled 'A Genetic Atlas of Human Admixture History' (Hellenthal et al. 2014) corroborates the already familiar observation that intermixture followed the major population movements involved in European, Arab and Mongol imperial expansion. Similarly, Guo et al.'s (2014) finding that black self-identification kicks in at a much lower threshold of African ancestry than white self-identification does vis-à-vis European ancestry will not surprise anyone with a passing familiarity with the American one-drop rule. Close readings of arguments linking genes, race, ethnicity, admixture and migration should be undertaken not just to guard against simplistic assumptions about our ability to analyse biological data in a bias-free manner, but also simply to ascertain whether they have new knowledge to contribute.

It is important that we come to a consistent and sociologically informed voice that makes itself heard in the public as well as the academic arenas, because the (re-)biologization of race is proceeding apace outside the ivory tower. The notion of race as a fixed genetic characteristic makes its way to us through medical practices, pharmaceutical drugs, forensic practices, genetic genealogy tests, textbooks and the media (Morning 2011). May 2014 witnessed the publication of *A Troublesome Inheritance: Genes, Race and Human History* by Nicholas Wade, a *New York Times* science writer who consistently casts genetic research findings as demonstrating the biological underpinnings of race. According to his publisher, the book

unleashes ‘an explosive new account of the genetic basis of race’.<sup>3</sup> It is no wonder then that in her February 2014 remarks at the annual meetings of the American Association for the Advancement of Science, anthropologist Nina Jablonski felt compelled to address the consequences of living in ‘a time when genomic knowledge widens’. ‘We must constantly monitor how this information on human gene diversity is used and interpreted,’ she warned (Messer 2014). ‘Any belief system that seeks to separate people on the basis of genetic endowment or different physical or intellectual features is simply inadmissible in human society.’

## Notes

1. For ‘fringe’ scholarship on race and biology, see for example Rowe (2002), Rushton (2000) and Herrnstein and Murray (1994).
2. For just a few examples of this literature, see Bliss (2012), Braun (2014), Duster (2006), Epstein (2007), Fujimura (2011), Fullwiley (2008), Kahn (2012) and Nelson (2008).
3. See: <http://www.us.penguingroup.com/nf/Book/BookDisplay/1,,9781594204463,00.html>

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