

Anthropology of Race

I

Knowing Race

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What do we know about race today? Is it surprising that, after a hundred years of debate and inquiry by anthropologists, not only does the answer remain uncertain but also the very question is so fraught? In part, this reflects the deep investments modern societies have made in the notion of race. We can hardly know it objectively when it constitutes a pervasive aspect of our identities and social landscapes, determining advantage and disadvantage in a thoroughgoing manner. Yet, know it we do. Perhaps mistakenly, haphazardly, or too informally, but knowledge claims about race permeate everyday life in the United States. As well, what we understand or assume about race changes as our practices of knowledge production also change. Until recently, a consensus was held among social scientists—predicated, in part, upon findings by geneticists in the 1970s about the structure of human genetic variability—that “race is socially constructed.” In the early 2000s, following the successful sequencing of the human genome, counter-claims challenging the social construction consensus were formulated by geneticists who sought to support the role of genes in explaining race.¹ This volume arises out of the fracturing of that consensus and the attendant recognition that asserting a constructionist stance is no longer a tenable or sufficient response to the surge of knowledge claims about race.

Anthropology of Race confronts the problem of knowing race and the challenge of formulating an effective rejoinder both to new arguments and

data about race and to the intense desire to know something substantive about why and how it matters. This undertaking, though, immediately confronts a larger problem: understanding race is predicated upon resolving deep uncertainties about the relative power and import of biology, genes, and culture. These three explanatory frameworks are regularly marshaled—and often deployed at cross-purposes to counter one another—in scientific accounts, historical narratives, and political arguments that seek to establish a fundamental ground for comprehending our reality. Competing knowledge claims about the reality of race typically derive from contrasting appeals to one of these three epistemological “grounds.” Our starting point, though, is that these domains are fundamentally, inseparably intertwined, and, arguably, nowhere is this basic fact clearer than the subject of race. We present here not just claims and findings about race, but an interlinking collection of vantage points that make the biocultural dynamics informing race tangible and intelligible. In concert, the following chapters develop an empirical basis for making factual claims about race, a basis that features the interplay of biology, genes, and culture in generating racial matters.

Succinctly, we begin from a basic stance that *race is a biosocial fact*.² This assertion purposefully stands in contrast to the position that race is a social construction. We take this stance because we have found that analyzing the complexity of race and making effective knowledge claims about its operations require a concomitant attention to biology and genes, as well as to social forces.³ Too often, assertions that race is socially constructed do just the opposite by insisting upon a firewall between society and biological and genetic domains. The reasons are well founded—they are an outgrowth of historical efforts to combat scientific racism and racial ideologies promoting notions that skin color reflects inherent, indelible characteristics (Reardon 2004 ; Smedley and Smedley 2012). But the point we stress here is that, today, such a stance risks obscuring more than it can reveal about the workings of race.

The principal advantage in construing race as biosocial lies in its complexity. First, rather than privilege one explanatory framework over another—culture over biology or genes, for instance—biosocial facts require that we grapple with these multiple consequential domains simultaneously. Second, these facts impel a reflexive awareness of the cultural interests that draw our attention to the biological and the genetic—we are compelled to think critically about the answers we anticipate even as we formulate empirical means of testing such materials. Third, this is an inherently nonreductive approach that frames a complex domain of interactions

across disparate scales of phenomena, in place of simplistic suggestions that the “truth” of race lies simply in our phenotypes, genes, or ideology. *Anthropology of Race* makes the case for seeing race in biosocial terms, as generated out of dynamic processes that span multiple domains. In doing so, we strive to contribute to a long-running debate in anthropology over the relationship between biology and culture, an uncertain comingling that occupied the concerns of Franz Boas and the hosts of anthropologists who followed in his wake (Baker 2010). The stakes in understanding the relationship between these distinct domains and explanatory frames are particularly sharp and poignant when it comes to race.

DEBATING RACE IN ANTHROPOLOGY

The approach to race developed in this volume builds upon an earlier effort to articulate a biocultural perspective on racial matters. But the status of this earlier effort remains tenuous in anthropology today; it hardly features in the dominant approach of the discipline, which principally targets racism and largely aims to foreclose an attention to biology and genes. To orient this volume within the broader field, a quick review of recent debates in anthropology on how race should be studied is warranted. Carol Mukhopadhyay and Yolanda Moses, in 1997, summarized the situation succinctly. The discipline, historically, has paradoxically played an influential role in *both reproducing and challenging* a “racial worldview,” specifically in “scientific theories of biological and racial determinism” (517). Furthermore, the discipline’s greatest accomplishments unintentionally led to a general inattention to race, which anthropologists have since been struggling to address.

In response to work in population genetics that specifically tried to reject and revise typological notions of race, Mukhopadhyay and Moses note that anthropologists “adopted a no-race position, abandoning the concept as a valid biological construct and accepting instead its social construction” (520). The problem, though, is that this position amounted to a “no-race policy [that] has really been a policy of no *discussion* of race by either physical or cultural anthropologists” (520–521). In basically arguing that race does not exist, anthropologists were offered, and provided to the public at large, an easy way out of talking about race at all. Mukhopadhyay and Moses found that this position also led to a heightened division of intellectual labor within anthropology—that “the abandonment of race as a *biological* concept has prompted some physical anthropologists implicitly to reassign discussions of race *as a social construct* to their cultural colleagues, believing its meaning is best examined and articulated within cultural

anthropology” (521). The inherent problems with this division are at the heart of their proposal to advance a biocultural approach to race.

Mukhopadhyay and Moses assailed “the twentieth-century anthropological assault on the biology-culture linkage”—an intellectual effort aimed at “disentangling biology and culture” in order to disrupt the connection between racial typology and naturalizing views of race. The anthropological critique of the preceding racial paradigm is that it “conflated biology and culture, biological variability and cultural variability, and generated a hierarchical evolutionary classification of groups with a set of semantic sidekicks (savages, primitives, civilized)” (521). Mukhopadhyay and Moses argued that “the gradual unraveling of this racial paradigm” involved disassociating biology and culture as “*unrelated phenomena*.” In their view, the assertion that race is a social construction rather than a biological concept unintentionally reproduces a dualism fundamental to the operation of race in society at large. It also reproduces a division of labor within anthropology—cultural anthropologists talk about social dynamics, such as racism, and biological anthropologists speak about physiological processes, particularly as they occur at the level of populations. In between, race falls out.

Anthropology can do better, Mukhopadhyay and Moses argued, and they provide a powerful template for how to proceed: “Our goal is ambitious. It is to identify a paradigm that can effectively address the social and material reality of race in the United States” (526). Succinctly, the new paradigm they promoted involved “exploring *biocultural* influences on the creation and persistence of American race.” They argued for combining an attention to biology and culture rather than trying to artificially separate these two interrelated domains. The benefits of this combined attention can be glimpsed in the goals they set for anthropological studies of race: “We must address not only the abstract question of human variation but the contemporary, socially relevant question of through what processes American socially constructed racial categories have become phenotypically marked and culturally real. To understand race in America requires understanding historical, sociocultural, *and* biological processes *and* their interactions” (526). They argued that a “*unified biocultural approach* to race and human biodiversity offers exciting opportunities for subdisciplinary cooperation and research that addresses the fluid, temporally, historically, and culturally specific nature of races and other social groupings in human history” (526).

The important advantage gained is that “a *unified approach* would provide concrete demonstrations of the impermanent, dynamic, socially created natures of human groups, even those that are characterized as phenotypically distinct” (526). The importance of such a model for anthropological

research is that it assails something far larger than race: “Such an approach would not only challenge the essentialist, typological racial categories that dominate American thinking but would begin to unravel the biology-versus-culture dichotomy that has dominated Euro-American thought” (526). In Mukhopadhyay and Moses’s approach, solving the problem of race hinges on assailing the idea that these key domains are distinct, an idea that can similarly be seen at the root of much thinking about gender (and class as well) to the extent that it is perceived, projected, and experienced in terms of embodiment.

This compelling vision of anthropologists across the various subdisciplines working in concert to analyze the problem of race, however, did not sweep the field and has yet to be widely considered by anthropologists today. In part, this is because a compelling counter-case was asserted the following year by Faye Harrison (1998) as a guest editor for a special issue of *American Anthropologist*. In Harrison’s view, rather than target biocultural dynamics, a four-fields approach should principally focus on *racism*—a phenomenon she located strictly in the social domain as a “social reality” and for which an attention to the biological would only prove distorting. The problem of race, Harrison stressed, is quite simply racism: an ideology that rationalizes the subjugation or privileging of human beings “because of differences purported to be fundamentally natural and/or biophysical” (613). Harrison did recognize that anthropology’s disciplinary breadth features a potentially useful orientation for the study of racism: “In reestablishing race as a central issue for anthropological inquiry and analysis, we should harness the strengths from holism that distinguishes our discipline and gives it a special vantage point based on a potentially innovative and useful synthesis” (610). But within this promotion of a four-fields perspective, the social domain stands as the principal explanatory framework for a revitalized, “racially cognizant anthropology” (610).

Despite the gesture toward a broad mobilization across the subdisciplines in anthropology, the starting point and emphasis in Harrison’s model are the “dismantling of the race construct’s biological validity,” which then allows for “a sustained examination and theorizing of the ideological and material processes that engender the *social construction of race* under the historically specific circumstances and cultural logic found here in the United States” (611). The problem of race is formulated in terms that prioritize an attention to social forces and are suspicious of discussions of biology in relation to race. The central concern, in Harrison’s view, is “how to interpret and explicate the social realities that constitute race” (610). This approach entails “shifting focus from human biology to the sociocultural

world” (615)—an analytical move “that denaturalizes race without failing to recognize the hard social fact of race consciousness” (616). Matt Cartmill, the biological anthropologist featured in the same special issue, emphasized this shift by arguing that, “like other social constructs, races are real *cultural* entities” and underscoring that “social facts are not necessarily part of the biological landscape” (1998:659). Cartmill’s strong stance that race does not exist and that human variation should not be thought of in racial terms buttressed Harrison’s stance that anthropologists’ attention needs to be focused on the social domain rather than race.

The emphasis on racism—in contrast to approaching race through a biocultural framework—was affirmed and further elaborated by Leith Mullings in an *Annual Review of Anthropology* essay, “Interrogating Racism: Toward an Antiracist Anthropology” (2005). Mullings begins by drawing distance from the social constructionist stance that “race does not exist,” in a manner that further emphasizes a palpable disinterest in any biological discussion related to race. Mullings explains, “My concern in this review is not to debate the social construction of race but to consider how scholars have attempted to grapple with racism. Although race may be socially constructed, *racism has a social reality* that has detrimentally affected the lives of millions of people” (2005:669). Indeed, analyzing racism, she contends, “requires *moving beyond* noting that race is socially constructed to confront forthrightly the extent to which structural racism is pervasively embedded in our social system” (685). This singular focus on “social reality” and the “social system,” though, amounted to an emphatic rejection of a biocultural approach to race; attending to racist ideology foreclosed a closer attention to biology.

The basis for such an insistence on social domain alone, Mullings argues, is that it is necessary in order to break “the interlocking paradigms of biology and culture [that] have been the main explanatory frameworks for racial inequality.” The root problem, in this model, is that “racism has historically invoked both culture and biology” and, as Mullings points out, “ideologies of racism continue to move in and out of biology and culture” (678). Targeting racism begins by halting this movement, largely by insisting on the primary relevance of the social domain to the task of properly understanding race. Subsequently, Mullings promotes an approach that wholeheartedly targets the social realm and leaves aside an attention to biological dynamics. This is evident in her definition of racism as “a set of practices, structures, beliefs, and representations that transforms certain forms of perceived differences, generally regarded as indelible and unchangeable, into inequality” (684). In this model, the problem lies squarely in the

realm of beliefs and representations that become fixated upon “perceived differences.” From such a perspective, an attention to biology can only ever be ancillary.

NOT JUST RACISM

In returning to and buttressing the stance on race promoted by Mukhopadhyay and Moses—indeed, taking up the burgeoning effort in anthropology to achieve a “biocultural synthesis” that would “take into account the complexities and contradictions of social life and how they influence biologies” (Goodman and Leatherman 1998:25; see Dressler 2005; Fuentes and McDade 2007)—the chapters in this volume resist the urge to delineate sharply between biology and culture. Instead, we actively follow the irrepressible traffic between these domains.⁴ In doing so, we are convinced that the attention to biology need neither reproduce nor lose sight of the relevance of racism. Epidemiologist Nancy Kreiger articulates this view well. Drawing on more than two decades of research, Krieger states the case plainly: “Health consequences can be conceptualized as biologic expressions of race relations, referring to how harmful physical, biological, and social exposures, plus people’s responses to these exposures, are ultimately embodied and manifested in racial/ethnic disparities in somatic and mental health” (2010:230). Simply put, “racism harms health, and does so differentially by race/ethnicity, thereby producing racial/ethnic health inequalities” (248). But “to conduct scientific research to test the hypothesis that racism harms health” (229) requires a range of biological data that a strict social constructionist stance would scarcely tolerate. This brings into view two points that are central to the discussions in *Anthropology of Race*. The first, as already stressed, is that we need to track race as a product of biosocial dynamics rather than regard it solely as an ideological construct (Bliss 2012). But the second point is perhaps more challenging: we need to see that more than racism is at work when we explain how and why race continues to matter (Hartigan 2010b).

This point is also underscored in recent work by Steven Epstein (2007) and Dorothy Roberts (2010). In broad strokes, Epstein tracks the emergence of the “inclusion-and-difference paradigm” in medical research—the product of federal laws, policies, and guidelines issued from the 1980s to the present that are the result of political mobilization on the part of racial minorities to address health inequalities. The story Epstein tells is complicated and intriguing: in response to an apparent over-emphasis on white males in medical research—ironically, the outcome of reforms in the 1970s to counter researchers’ excessive reliance on “vulnerable populations” such

as women and prisoners—“bioreformers” promoted the development of federal guidelines that would require including, even highlighting, racial minorities in medical testing and do so in a manner specifically to address health disparities. The result is our current system, in which racial identity is easily operationalized for biomedical research in a way that seems to affirm that “biological differences” are a more powerful explanation for health disparities than are social factors. But this adverse development is not, at root, the product of racist ideology. Rather, it is the outcome of various ways in which people struggle to contend with the significance of race in multiple social and biological registers simultaneously, often in contradictory manners.

Consider one development highlighted by Epstein and then more fully explored by Roberts: “The logic of recognizing group differences went hand in hand with a desire to ensure the continued marketability of the widest possible range of pharmaceutical company products and not just the ones with the least expensive price tags” (Epstein 2007:73). Roberts depicts a complex landscape as she follows African Americans who are making use of commercially available forms of biotechnology that range from the drug BiDil (marketed as counteracting heart failure for black patients) to an array of genealogical products. Roberts finds that “African Americans are using genetic technologies to learn more about and to reconfigure their *group* identity” (2010:266). Though racism is an indisputable factor in how these technologies are conceived and marketed, it does not encapsulate the range of biosocial dynamics at work here. As Roberts conveys, “black Americans are at the cutting edge of using genetic technologies to map not only their individual genomes, but also their biosociality—and their citizenship. This is not a separate citizenship that revolves around health issues, but rather, one that incorporates new genomic research into racial identities and everyday institutions” (267–268). This process of incorporation is multifaceted and responds to a variety of social, political, and economic developments, all linked to the emergence of the inclusion-and-difference paradigm in medical research. Relying upon racism alone to explain these developments is an insufficient means for understanding the diverse forms of significance race has for people in their daily lives and in their encounters with—or inscription into—biomedical practices (Montoya 2011). This basic point is borne out in recent critical scholarship on race and genetics.

The research, which has been at the fore of public discussions and debates, has been the subject of excellent collected volumes published as special issue journals or as books. The titles are revealing: “Genomics and Racialization” in *American Ethnologist* (May 2007); “Special Issue on

Race, Genomics, and Medicine” in *Social Studies of Science* (October 2008); *Revisiting Race in a Genomic Age* (Koenig, Lee, and Richardson 2008); “Race Reconciled: How Biological Anthropologists View Human Variation” in *American Journal of Physical Anthropology* (May 2009); and *What’s the Use of Race? Modern Governance and the Biology of Difference* (Whitmarsh and Jones 2010). One point plainly resonates in each of these works: the notion that genetics research in the 1970s had conclusively produced the truth about race—that race is just a “myth” (Graves 2005 ; Montague 1945)—was short-sighted. Instead of settling the matter, social constructionist arguments based in genetics unexpectedly seem to have ensured that genes and race will continue to be actively linked and will require ongoing, critical scholarship. But the variety of approaches encapsulated in these volumes reflects the lack of uniformity in how this work is envisioned and addressed to wider audiences.

Contrasting sensibilities about the role of racism, for instance, are evident in *Revisiting Race in a Genomic Age* (Koenig, Lee, and Richardson 2008) and *What’s the Use of Race?* (Whitmarsh and Jones 2010). Koenig and colleagues, for instance, take the stance that this “new genetic race concept is importantly different [from] its predecessors; so too is the context of the debate” (2008:3). Eschewing a reductive stance that would construe this development as a “return” of scientific racism, *Revisiting Race in a Genomic Age* begins with the very contemporary textures and contexts in which these new claims about genes are being formulated and are playing out. Here, they echo Nikolas Rose in *The Politics of Life: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (2007), who locates these developments “firmly within the transformed biopolitics of the twenty-first century” (67), dismissing the suggestion that any connections pertain with the eugenics movement of the preceding century. In sharp contrast, Whitmarsh and Jones stress forms of continuity with previous eras of “racialized governance,” concluding that “new genotyping technologies and techniques are intimately tied to traditional ways of knowing populations” (2010:18). Whitmarsh and Jones characterize our current moment in terms of “the persistence and revival of race science” (2), whereas Koenig and colleagues place their emphasis on novel, emergent practices and predicaments linked to race.

Neither collection promotes the view that linkages between race and genes will decrease anytime soon. Both volumes illustrate a position taken earlier by Troy Duster that “purging science of race is not practicable, possible, or even desirable” (2003:272). Rather, now that we are stuck with it once again, the principal question seems to be whether this situation

primarily warrants critical scholarship that challenges as many instances of race in science as possible, or is it perhaps better matched by formulating empirical claims about race that afford a more powerful view than do reductive depictions of race in relation to biology, genes, and culture? Without wishing to overdraw contrasts between the volume you hold in your hands and previous approaches to this issue, we have opted here for an empirically minded approach.⁵

SUMMARY OF INDIVIDUAL CHAPTERS

Clarence Gravlee's chapter 2 opens this volume by engaging two fundamental challenges confronting research on race: the misguided tendency to equate biology and genetics and our lack of dexterity in grasping the role of culture in interplay between these two distinct domains. A key problem with the social constructionist position on race, Gravlee demonstrates, is that it "tacitly accepts a form of reductionism" by eliding the difference between genes and biology; as well, it "blinds us to the biological consequences of race and racism and leaves us without a constructive framework for explaining biological differences between racially defined groups." Going a step further, Gravlee deftly points out that "there is no logical contradiction between the claim that race is a cultural construct and the claim that it is a useful way to understand human genetic variation." These claims "address different types of phenomena and require different types of data," the combination of which is required in order to adequately address the significance of race today. Doing so demands basic literacy regarding genetics and biology, but also a recognition of their dynamic interplay, which is predicated on the operations of culture.

The contours of a biocultural approach to race are fleshed out further by Chris Kuzawa and Zaneta Thayer. In their chapter 3, the principles of evolutionary biology come to the fore, not in a reductive assertion about natural selection but rather in their explanation "that processes of environment-driven developmental plasticity are important contributors to human variation that we see today." Such a claim should not be disquieting to cultural anthropologists; as Kuzawa and Thayer emphasize, this point was illustrated in Boas's work on bodily changes among immigrants a century ago. Unfortunately, because natural selection has been widely misconstrued in terms of "genes for" certain traits, biology has come to be understood as a domain of fixed, inherent attributes. Countering this misunderstanding with an effective primer on evolutionary dynamics, Kuzawa and Thayer "show that plasticity is a pervasive feature of human biology that has important impacts on traits such as growth rate, maturational

timing, age at first reproduction, brain organization, and immune function and on the metabolic and physiological traits that influence how the body manages energy and reacts to stress and that ultimately determine risk for many chronic diseases.” These biological processes shape our phenotypes in relation to varied environments and social contexts, as much if not more so in relation to particular genotypes. The central point of this discussion—that the intergenerational impacts of stress exemplify how societies, rather than genes, are responsible for shaping many of the biological consequences of race—underscores Gravlee’s point about not conflating biology and genes.

Ron Eglash in chapter 4 offers yet another of these interweaving dynamics by tapping the field of cybernetics in order “to understand race as the outcome of a network of recursive processes in which both natural and human agencies are at work across multiple scales in space and time.” Eglash considers the operations and flows of information, particularly in feedback loops between biological and environmental systems. But he directs this focus to a most crucial issue with race: intelligence. As he notes, most of the controversy over race is due to the claim of a link between the genetics of ethnic groups and cognition. Rather than deconstruct or foreclose any considerations of such a link, Eglash shifts the ground for this debate by reconsidering the use of race in relation to nonhuman species. He does so via a fascinating discussion of encephalization quotients (brain-to-body ratio), one that echoes Kuzawa and Thayer’s discussion of developmental plasticity. But his emphasis leads in a different direction to make the point that homeostatic stabilization of environments can be a product of social forces and institutions. Thus, “race is recursive” for humans and nonhumans alike. Eglash’s aim in this formulation is “to think about how the race concept might be better configured.” Eglash concludes that “a more useful way to frame the relationship between race and genetics” could be formulated through an attention to contrasting forms or levels at which feedback loops operate, differentially manifesting, for instance, in nutritional and disease dynamics.

Linda Hunt and Nicole Truesdell’s examination of the “tenacity of racial concepts in genetics research” in chapter 5 offers a stark reminder of the challenges that confront Eglash’s call to reimagine the links between genes and race. As well, Hunt and Truesdell’s study bears out a point stressed in Gravlee’s chapter 2: anthropologists’ critique of the race concept has had little impact outside the discipline, which is painfully evident among geneticists. Hunt and Truesdell present a two-tiered perspective on recent work linking race and genes, by conducting a targeted literature

review of articles reporting on “continental populations” and an extensive series of interviews with geneticists who mobilize racial/ethnic variables in their research. They develop a typology of common research projects—population genetics studies (modeling human evolution and migration); studies of common genetic variants in current, pre-identified populations; and clinical genetics studies that consider disease susceptibility and treatment response—but cross-cutting this variety is a stunning uniformity of cultural dispositions toward race. From this sampling of rigorously minded researchers, Hunt and Truesdell are struck by “the ambiguous and unsystematic way racial/ethnic classifications are being handled by genetics scientists.” They subsequently ask, “Why is it that, in these otherwise highly systematic and rigorous scientific disciplines, this particular vagueness is tolerated and replicated?”

Pamela Sankar in chapter 6 similarly attends to the thoughts and words of geneticists who deal with race. She, too, interviews medical researchers whose projects examine genetic contributions or predispositions to disease. But Sankar’s approach is informed by a suspicion that the charges of “essentialism” directed at geneticists may distort more than they reveal about geneticists’ analytical practices linking genes and race. Drawing on the work of Peter Wade and Ann Stoler—both of whom find that associations of racial categories with “natural” or biological elements may entail more than reductive, essentializing gestures—Sankar approaches her interviews with an ear attuned to the ways that phenotypes and genotypes may be characterized in terms of mutability rather than fixity. Her starting point is an attention to how these researchers’ discussions of possible links between race and genes reflect “flexibility and resiliency,” suggesting that a dynamic of “interpretation and reinterpretations,” of pondering and improvising, may also characterize racial thinking in medical fields. But Sankar moves beyond the work of Wade and Stoler to additionally ask, “Could a biological claim be nonessentialist?” opening the possibility that such assertions may reflect a previously unacknowledged “instability of race claims.”

My chapter 7 offers an ethnographic perspective on a national genomics institute in Mexico City, Instituto Nacional de Medicina Genómica (INMEGEN). This project draws upon earlier work by both Hunt and Sankar, which I use as a basis for sketching national contrasts in the practice of genomics in the United States and Mexico. My focus is on this institute’s effort to sequence and establish “the Mexican genome,” an undertaking characterized in US business news reporting as a “race-based project.” But through fieldwork at INMEGEN, I recognize that this judgment about “race” reflected as much a set of American racial beliefs—beliefs that racialize

“Mexicans”—as it characterized the practice of genetics in Mexico. Based on this recognition, my chapter opens with the challenge of making assessments about race in genomics research conducted in different countries. Succinctly, I found that the surety concerning assessments about what counts as race in the United States warrants critical reflection, as do the practices and assumptions targeted for such scrutiny in Mexico. This comparative perspective requires recognizing that the very culture-bound ways Americans think about race are not shared across the border. This stance acknowledges the cultural complexity of racial matters and suggests that our confidence concerning racial analytics needs to be recalibrated with a greater understanding of the cultural dimension that informs such assessments.

Sandra Lee’s chapter 8 greatly expands the international dimension of this volume with her analysis of the global landscape for drug development, which attends to the geography of biocapital anchored in Western Europe, North America, and East Asia. Lee’s subject is pharmacogenomics, and she presents a snapshot of a surging field rapidly coalescing from an array of technological developments and in search of symbolic legitimacy and clinical relevance. Her chapter opens with an ethnographic vignette of the first scientific meeting on pharmacogenomics, held at Cambridge University in 2003; it then unfolds via a series of case studies of particular drugs—BiDil, Iressa, and warfarin—each of which offers a distinctive perspective on the questions of racialization and social justice. Lee is particularly attuned to the intertwining of promise and peril in the connections between race and drugs, which leads her to pose these questions: Will such associations do more to heighten or ameliorate racial disparities in health? Will the forms of privilege ensconced in developed nations also reproduce badly skewed forms of access to resources in the production, marketing, and consumption of pharmaceuticals? Answering these questions, Lee argues, requires understanding the recursive nature of race making in the age of genomics, echoing Eglash’s earlier attention to a dynamic that is also evident in the practices of genomic sampling, sequencing, and interpretation that fundamentally impact how difference is identified and made meaningful. Lee narrates the global search to identify genetic bases for drug responses, which fixates on identifying minute variations in the nucleotide sequences that make up genes.

The panoply of issues raised in Lee’s research can be distilled into a simple question: what possible connection pertains between race and genes? In response, Jeff Long’s chapter 9 presents readers with a drastic overhaul of many assumptions about the relation of genes to our contemporary interests

in race. Long tackles the contentious question of ancestry informative markers (AIMs) and what, if anything, they tell us about the significance of race today, particularly in the genetics of health. The fundamental point Long makes is that race-based expectations that genetic differences will have much bearing on our understanding of health outcomes are misplaced and indicate a basic misunderstanding of human evolution. What we generally fail to grasp is that the genetic diversity that characterizes our species was largely generated prior to the emergence of modern humans. In this view, “the most restricted group that includes all African populations includes all populations in the world,” ruling out the possibility of considering Africans as a race in formal terms. This is a striking finding, given that “Africans” are the population most frequently targeted for genetic explanations—notably, with utterly contrary findings, which suggest alternately their genetic fitness (athletic) or feebleness (health).

But Long also engages the broader issue of how we think about the ways that race correlates with geography and what this reveals about the genetic structuring of human diversity. At stake here is the ongoing relevance of Richard Lewontin’s foundational work (1972), which challenged the significance of race in relation to the genetic variation between populations—a point of contention in contests over social constructionist claims today (Edwards 2003). Long suggests that the larger problem here is a lack of “consensus on what constitutes genetic or taxonomic significance” concerning variation between and within groups. As well, he argues that where this matters most—predicting health status and disease risk in relation to ancestry—we remain confused about a key distinction: “inferring our ancestors from our genes (as in ancestry testing) differs from inferring our genes from our ancestors.” Correlations between health and ancestry hinge upon families’ shared history and social environment, leading Long to conclude that “the lives of the people who are or were our ancestors are likely to tell us more about our health and disease risks than the genes that they passed to us.”

LOOKING AHEAD

Taken in concert, these chapters—in respectively grappling with the task of producing knowledge claims about race—offer a shift away from a stance that principally offers the critique that “race is a social construction.” Our approach does not promote the notion that “race is real,” in any generic or essentialist sense, as a counterpoint to the constructionist assertion that it is simply a “myth.” Rather, we show that an empirical attention to race necessarily fractures across the various scales at which data

is produced and analyzed regarding biology, genes, and culture. In this regard, the challenge of knowing race shifts from assuming that it is a substrata of our common humanity upon which difference may be uniformly organized and ranked, to recognizing the immense task of correlating and comprehending the various domains in which difference punctuates our profound dimensions of sameness. In this sense, we confront the status of race as a conceptual “unity” in a manner similar to the way Michel Foucault regarded “sex” as a unity that organized an elaborate epistemology.

In *The History of Sexuality, Volume 1* (1990), Foucault examined the operations of power that construed sex as the basis upon which we are compelled to know ourselves and to be known. Power fixates on sex, which does more to heighten and encourage attention to it than to repress it in any fundamental manner. The connection with race—through a similar focus on “bodies, functions, and physiological processes”—is suggested by Foucault, too, in that this same historical development also produced the modern operation of racialization. Foucault writes, “Racism took shape at this point (racism in its modern, ‘biologizing,’ statist form): it was then that a whole politics of settlement, family, marriage, education, social hierarchization, and property, accompanied by a long series of permanent interventions at the level of the body, conduct, health, and everyday life, received their color and justification from the mythical concern with protecting the purity of the blood and ensuring the triumph of the race” (149). A further assertion he makes in regard to sex holds for race: to paraphrase, the biological and the social “are not consecutive to one another”; rather, they are “bound together in an increasingly complex fashion in accordance with the development of the modern technologies of power that take life as their objective” (152).⁶

In this analytical frame, to transpose Foucault further, we can see race as “a complex idea formed inside the deployment” (152) of racialization; “an ideal point made necessary by the deployment of” (155) racialization. Race “is the most speculative, most ideal, and most internal element in a deployment” (155) of racialization, “organized by power in its grip on bodies and their materiality, their forces, energies” (155). In drawing these correspondences, the crucial recognition lies in seeing race, like sex, through the apparatuses of knowledge production, as constituting “an artificial unity” (154)—one that makes it possible “to group together...anatomical elements, biological functions, [and] conducts” (154). Upon what other basis than such a unity would it be possible to assemble all the various objects, sites, and practice—seemingly disparate and incongruous—that we have arrayed in this volume: spectrophotometry, zip codes, and various complex diseases

(Gravlee); phenotypic accommodation, reaction norms, and developmental genetic programming (Kuzawaa and Thayer); cybernetics, DNA methylation, and encephalization quotients (Eglash); continental populations, genetic case-control cohort studies, and Adam and Eve (Hunt and Truesdell); MEDLINE-indexed articles, genetic research recruitment strategies, and a bio-repository to study heart disease and autoimmune conditions (Sankar); a 100k Affymetrix chip, along with Mixtecs, Mayans, and Zapotecs (Hartigan); biocapital, clinical relevance, and “orphan drugs” (Lee); and models of the coalescent process, ancestral DNA sequences, and STR gene diversity (Long).

The imagined unity of race is challenged here through moving from one stratum of phenomena (with its attendant forms of data production and analysis) to another, but not in a manner that insists upon race’s status as “myth.” Rather, through these shifting, related strata, the notion that race might somehow hold equally at each level or be constituted in a common, generic manner across each domain is rendered unsustainable. In place of an assumption that race is an “artificial unity,” we offer a fine-grained attention to the alternately interlocking and discrepant ways race manifests in various domains. Knowing race is dependent upon an even more challenging task of accounting for the interplay of genes, biology, and culture.

Notes

1. For a thorough review of these claims, see Hartigan 2008. Prime among these are the finding by Neil Risch and Esteben Burchard that any “two Caucasians are more similar to each other genetically than a Caucasian and an Asian” (Risch et al. 2002:5) and the demonstration by Michael Bamshad and colleagues (2003) that increasing the data from genetic markers leads to accuracy rates of 99 to 100 percent in correctly identifying an individual’s “continent of origin.” These findings reflect the fact that what little genetic variation there may be between groups is highly structured and potentially effective in identifying individuals with racial categories, a point established by A. W. F. Edwards (2003) in his critique of “Lewontin’s fallacy.” These claims informed the conclusion drawn by Francis Collins, director of the National Human Genome Research Institute, that “it is not strictly true that race or ethnicity has no biological connection” (2004:S13). Such findings are increasing. As of this writing, the most recent include Hinch et al. 2011 in *Nature* and Wegmann et al. 2011 in *Nature Genetics*.

2. Paul Rabinow (1996) coined the term “biosociality” to characterize how biological processes are redesigned or remade to conform to social interests and practices. But “biosocial,” too, has also been used effectively to refer to the way people

previously unknown to each other come to socialize on some biological basis, as in receiving the same medical diagnosis or being subjected to similar environmental risks or impacts (Rose 2007). Such biosocial collectives are evident in the way genetic ancestry tests are prompting people to reimagine or refashion their social ties to racially defined identities (Bolnick et al. 2007). These developments each speak to the importance of seeing race as a biosocial fact rather than as a social construction. Regarding concerns about sociobiology, Rabinow writes, “If sociobiology is culture constructed on the basis of a metaphor of nature, then in biosociality nature will be modeled on culture understood as practice. Nature will be known and remade through technique and will finally become artificial, just as culture becomes natural” (1996:99).

3. Some of the best examples of a biosocial approach are in ethnographies of illness and race. Duana Fullwiley, in *The Enculturated Gene: Sickle Cell Health Politics and Biological Difference in West Africa* (2011), examines “patient advocacy groups formed through biosocial blood ties that both mimic and renew idioms of kinship solidarity” (xiii). Similarly, ethnographers Carolyn Rouse, in *Uncertain Suffering: Racial Health Care Disparities and Sickle Cell Disease* (2009), and Ian Whitmarsh, in *Biomedical Ambiguity: Race, Asthma, and the Contested Meaning of Genetic Research in the Caribbean* (2008), opt for a keen attention to the interpretive work of patients; this contrasts with previous approaches to genetic diseases linked to race that principally try to frame them in constructivist terms, such as Mel Tapper’s (1998) and Keith Wailoo and Stephen Pemberton’s (2006). But also see Wailoo’s (2000) historical analysis of sickle cell in Memphis.

4. On the traffic between nature and culture, see Franklin, Lury, and Stacey 2000. Also see Goodman, Heath, and Lindee 2003: “Biosociality describes what we are calling nature/culture, or the labyrinthine intermingling of realms that calls into question both categories” (5).

5. In contrast to the assumption that culture will always lose out against genetic explanation, see Foley and Lahr’s assertion that “phylogenetically, ecologically and demographically, it is more probable that patterns of genetic diversification are following cultural packages, rather than the other way around. Culture, in this sense, constrains biological diversity” (2011:1087). Also see Laland, Odling-Smee, and Myles “How Culture Has Shaped the Human Genome” (2010).

6. In developing this application of Foucault’s analysis of sexuality in relation to race, I am drawing upon a similar line of analysis from Eugenia Shanklin (1998) and Ann Stoler (1995).