The Business of Race and Science

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Invited Lecture: Mike Fortun
Race in the Meantime: The "Care of the Data" for Complex Conditions

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Commercial Ventures in Genetic Ancestry Testing and the Science of Racial Genetics

Although anthropologists have long argued that race is a social construct, a number of recent genetic studies suggest that it is also biologically meaningful because certain genetic markers are associated with specific racial and ethnic groups. This body of research has served as the basis for a variety of commercially available "genetic ancestry tests", which draw upon both the methodologies and conclusions presented in the scientific literature. At least twenty private companies now offer these tests, and more than 50,000 people have taken them in the last three years to help reconstruct their personal genealogical histories and to determine the geographic/ethnic origins of their ancestors.

In this paper, I examine what these genetic ancestry tests convey about race, ethnicity, and human genetic variation. In particular, I evaluate three different types of tests: tests of Native American ancestry, Jewish (Cohanim) ancestry, and Irish ancestry (associated with the "High Kings of Ireland"). The company claims about each test are compared with what the tests actually do, and the benefits, limitations, and problems with each test are discussed. Perhaps most importantly, this analysis of the commercially available tests helps to illuminate a number of important problems in the underlying science. I discuss the implications of these findings for our understanding of both race and racial science.

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Race, Genetic Ancestry and the Dilemmas of Identity in Contemporary Brazil

The 'new genetics' (or genomics) has widely affected a range of domains in the contemporary world. The 'new genetics' has not only reshaped the biological, cultural and social environments of individuals, but has reconfigured macro-social, historical and political relations among groups. Genetic narratives interact with historical and social narratives; that which is extremely new (genomics) touches, interacts with, and in many cases grates against that which is old (race and typologies). The interpretation of genetic results from studies conducted in Brazil has recently triggered debates among biologists, social scientists, politicians and social activists. A contextualized analysis of these debates, which to a large extent derive from the commercial availability of genetic tests of ancestry, proves helpful in better understanding the overlap between race and genetics in today's world, as well as its implications for national identity and public policy. Specifically, we will analyze the debate over the results of a number of studies aimed to shed light on the 'genetic origins of Brazilians' based on the sequencing of mitochondrial DNA, Y chromosome and nuclear DNA. We will explore some of the new kinds of relations between 'nature/genetics' and 'culture/society', in which genetic data play an outstanding role.

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To count is to be counted: Exploring alignments between census, race, and health in contemporary Britain

This paper examines the growing alignment between state practices of counting and classifying populations, developments in health policy to meet the needs of minority groups and to redress inequities, and biomedical research into genetic differences implicated in disease causation and drug efficacy. It is in part inspired by Epstein's (2004) research into 'biopolitical paradigms' and by work in anthropology, sociology and the political sciences on the way in which statistical measurement, as exemplified by the decennial population censuses in the US, UK, Canada, and elsewhere has become increasingly central to social identity and to the politics of recognition, a. It was only in 1991 that census-takers in Britain were able to successfully begin to collect reliable statistical data on ethnic groups. I trace the controversial history of how ethnicity became the business of the census in the UK, and how, from the beginning, the census has been characterised by confusion about race and ethnicity and whether these are 'biological' or 'social' categories. I show how census-takers have taken a growing interest in various aspects of people's identification with ethnic categories, nationalities and religions and suggest that, today, the census is as much about engaging in the politics of recognition as it is about combating racial discrimination and disadvantage. Using evidence from documentary sources and interviews with policymakers and scientists, I explore the implications of the use of census ethnic group classifications in the settings of health policy and biomedical research. Given the conceptual confusion in the census around race and ethnicity, I focus especially on recent concerns expressed by Duster and Kahn about the re-emergence of 'racial biologism'.

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The Business of Racial Criticism in Biomedical Research

Despite what many considered the definitive UNESCO statements on 'race' during the early 1950s, racial categories have continued to be used as analytical variables in biomedical research. This has sustained a growing body of academic work critical of 'racial science' which has engaged some of the greatest biologists of the 20th century, including: Stephen Jay Gould, Richard Lewontin and Jared Diamond. It has also provided an opportunity for communicating complex scientific issues to a wider audience of scientists and lay people – not least those relating to the evidence required to establish validity and causality, and the nature of gene-environment interactions. However, the 'business of racial criticism' has largely failed to discredit racial categories as markers of innate genetic difference, and some have argued that paying attention to race has only served to reify its importance in the eyes of scientists and lay people. This paper will aims to understand why biological notions of race remain as much an issue at the beginning of the 21st century as they did at the beginning of the 20th. It will draw on a systematic review of published criticisms and concerns about the use of racial categories which suggests that these continue to be poorly conceptualised, defined and operationalised in biomedical research, and are rarely valid markers for genetic variation. Despite these concerns a subsequent review of biomedical and genetics journal guidelines found very few that sought to improve the use of such categories. Indeed, interviews with genetics journal editors found there to be limited experience or understanding of the problems racial categories pose, and little willingness to develop appropriate guidelines beyond engaging the research community in further debate. Moreover, these interviews revealed how geneticists have been able to co-opt or circumvent the key criticisms levelled at racial categories as markers of genetic variation, by: (i) accepting these as social constructs yet adopting quasi-racial 'ethnic' categories to improve their apparent palatability, salience and analytical value; and (ii) distancing the *scientific* use of these categories from their *social* meanings and value. Geneticists seem to be able to achieve this slight of hand because, first, they ascribe to an untheorised approach to science in which the utility of scientific tools is sufficient to validate these as real and, second, they operate within a scientific sub-culture which renders their work immune from social criticism. This paper concludes that the business of racial criticism might only succeed when the criticisms and concerns address the untheorised nature and powerful subculture of biomedical research rather than the fallibility of 'race' per se.

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Physicians' Attitudes Regarding Race-Based Therapeutics

Context: Differences in medication treatment effects for hypertension and congestive heart failure in Blacks and Whites have been widely reported in the medical literature and recent debates have focused on the role of genetic, social and environmental factors in explaining racial variation in drug response. Angiotensin converting enzymes inhibitors (ace-inhibitors) and Bidil are two prominent examples of medications with reported differential effects across race. However, little is known about physicians' attitudes toward race-based therapy and how they incorporate race-based therapy into their medical decision making.

Objective: The objectives of the study are: (1) To document how physicians describe the use and the implications of race based therapeutics; (2) To document how physicians characterize the premise of race-based therapeutics; (3) To determine if there were any similarities and/or differences between the Black and White physicians.

Design, Setting, and Participants: Ten focus groups of internal medicine physicians consisting of 5 groups of white physicians, and 5 groups of black physicians were organized. A total of 90 physicians participated in 5 US cities participated. Main Outcome Measures: Qualitative analysis of focus group transcripts to determine physicians' attitudes regarding race-based therapeutics and how physicians currently use BiDil and ace-inhibitors in their practices.

Results: Both Black and White physicians were skeptical of the premise of BiDil, citing market forces as the primary impetus behind its creation. Physicians voiced concern that commercial considerations shaped the drug development of BiDil thereby threatening the validity of the trial. Despite these concerns, both Black and White physicians reported using BiDil to treat their Black heart failure patients. In addition, physicians reported treating White patients with BiDil despite the lack of trial results. Most physicians did not feel that BiDil represented the future direction of medicine, rather they thought it would be an exception. Physicians hoped that eventually patients could be genotyped to determine if they would respond to a treatment or not but were skeptical of realizing the promise of genomic medicine. According to both Black and White physicians, hypertensive Whites respond better to ace-inhibitors as compared to hypertensive blacks. However, physicians often recognized the potential renoprotective effects and post myocardial infarction benefits of ace-inhibitors in Black patients. Several physicians were less likely to start Black patients on an ace-inhibitors in the absence of a compelling reason such as proteinuria. Physicians were open to the concept of race-based therapeutics and the benefits it could bring however both White and Black physicians voiced concern about the consequences of race-based therapy.

Conclusions: Both Black and White physicians were uncertain if they could identify patients who are most likely to benefit from a drug using race as a selection criterion. In addition, physicians were skeptical of drugs such as BiDil and expressed concerns about the design of the BiDil trial.

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“It could be in the genes”: Alzheimer’s disease and the practice of (re)membering personhood

Alzheimer’s disease (AD) is described by the National Institute on Aging (NIA) as a “brain disorder” that gradually progresses from “mild memory loss to disturbing changes in behavior and personality, decline in the ability to think or recognize people, and profound memory loss” that ultimately “…consumes and destroys normal brain function.” Since the early 1990s, representations of “ethnically diverse” communities in annual reports and newsletters have continued to increase. Recently the Alzheimer’s Disease Neuroimaging Initiative published a brochure featuring African American poet Maya Angelou stating, “…I can imagine…and hope for… a world without this terrible disease.” Similarly, the Alzheimer’s Association has published informational literature on the “emerging public health crisis among” African Americans and Hispanics describing the “prevalence of known or suspected risk factors for Alzheimer’s.” Interestingly, literature targeted at African American and Hispanic communities minimize “genetic factors” and focus on “risk factors” such as diabetes, high cholesterol, hypertension, and education. In other words, nongenetic “risk factors” become central to stabilizing presupposed “genetic” differences in racial categories. In my paper I discuss the practice of (re)membering personhood by examining the relationship between “normal” cognitive function, memory, aging, and Alzheimer’s disease. I start with an examination of the deployment of genetic vs. “life style” risk in determining cause and individual responsibility differentially according to race and ethnicity. I then discuss the ways in which public health and ethnogerontology discourses on “cultural competency” have facilitated the emergence of race-specific medications and diagnostic strategies. As genetic testing and neuroimaging technologies become increasingly central to differentiating between normal/pathological and health/illness, the social, (bio)ethical, and political landscape on which aging is experienced, understood, and governed will continue to be reconfigured and reconfigure how ‘we’ understand bodies, time, consciousness and ultimately personhood.

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deCODE, Veliflapon, and GRAHF: Efforts to Identify Genetic-Based Approaches to CVD Reduction in African Americans

Race is a poor marker for genetic differences between people; perhaps in the future, genomics will help establish which patients best respond to which medications. Myocardial infarction (MI) is the leading cause of death in the industrialized world. African Americans suffer disproportionately from cardiovascular events, including heart failure, with the highest overall mortality rate and out-of-hospital coronary death rate of any racial/ethnic group in the United States. The VICTORY/LTCAD (Veliflapon reducing CV Events in Coronary Artery Disease/Leukotrienes in Coronary Artery Disease) study is a Phase III clinical trial of veliflapon, a novel investigational drug being developed by deCODE genetics for the prevention of myocardial infarction. The trial was designed to benefit those at highest identifiable risk through the targeted biological pathway: African Americans. The primary endpoint is a composite of reduction in fatal and non-fatal major cardiovascular events.

Veliflapon (formerly known as DG031) is an inhibitor of the 5-lipoxygenase activating protein, or FLAP. The FLAP and leukotriene A4 hydrolase (LTA4H) both modulate the activity of leukotriene B4 (LTB4), a potent inflammatory mediator expressed in atherosclerotic plaques. In late 2005, deCODE published its discovery that the HapK risk variant of the LTA4H gene increased risk for MI 250% in African Americans, and may account for 20% of MIs in this population.

A recent analysis from the A-HeFT genetic substudy: Genetic Risk Assessment in Heart Failure (GRAHF) trial demonstrated the impact of the NOS3 exon 7 (Asp298Glu) genotype, β1 arg389 variant, and the aldosterone synthase promoter polymorphisms in African Americans with heart failure. This study may determine the genomic predictors of the enhanced efficacy of BiDil. Genomic screens may identify admixture events versus nonevents, responders versus nonresponders, and genetic tailoring of pharmacotherapies. Clinical application of these concepts however, presently is limited.

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Metaphors, Mentality and the Manufacture of Knowledge: The PAARTNERS study into schizophrenia

Since the completion of the Human Genome Project, psychiatric researchers in particular have become excited about the possibilities such developments hold. One attempt to explore these possibilities is a current $21.7-million NIMH-funded study, the so-called Project among African-Americans to Explore Risks for Schizophrenia (PAARTNERS); a study that seeks to uncover the genetic polymorphisms that cause schizophrenia. Examining what the study's designers and financial backers expect the project will reveal about the etiology of the condition, and how they propose to go about such research, this paper will consider how knowledge about race is produced. In particular I will consider that dense relationship, observed by Thomas Kuhn, which lies between what scientists claim to know about the world and the formation of scientific paradigms. How, for instance, might the aims and objectives set down by researchers at the start of an experiment maintain a constant hold over their findings, informing and directing, and ultimately framing a study's conclusions?

Emphasizing that their focus on African Americans derives from a wish to reverse the longstanding neglect shown such groups in medical research, spokespersons for the PAARTNERS study have demonstrated a keen awareness of the tradition of neglect and abuse that circulates around the medical experimentation of minority groups. Yet looking deeper at the methods of the study, as well as the hopes of the study's directors and backers, we should be wary in thinking this benevolence is as as its promoters would have us believe. As research conducted since the 1980s has shown, black Americans are diagnosed with schizophrenia at rates completely out of proportion to their number in mental hospitals, or in the general population. The study's failure to note this fact is surely disingenuous. For the sense that black people, for whatever reason, are more susceptible to schizophrenia certainly assumes an underlying role in the PAARTNERS study. Identifying how this is so is the aim of this paper.

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Killer Applications: Clinical Trials, Race, and the Metabolic Syndrome

The United States is currently experiencing endemic proportions of an assemblage of chronic life-threatening and life-taking metabolic disorders: hypertension, type II diabetes, obesity, and dyslipidemia. The metabolic syndrome is a new biomedical concept that assembles multiple disease biomarkers for these disorders together into one global measure of metabolic disease risk. The metabolic syndrome and its racial dimensions are increasingly becoming the object of vested government, scientific, and corporate interests, practices, and knowledges. This paper explores two interrelated questions about the metabolic syndrome and race at the intersection of critical race, technoscience, and biomedicalization studies. First, what does racial science have to do with the emerging commercialization of the metabolic syndrome? And, second, what does the science of the metabolic syndrome have to do with the business and commercialization of race? To address these questions, I investigate two ongoing clinical trials, one National Institute for Child Health and Human Developing study to determine the safety, tolerability, and efficacy of orlistat (a.k.a Xenical made by Hoffman/LaRoche) in 12-17 year-old severely obese African American and Caucasian children and adolescents, and the other, a New Mexico VA Healthcare System and Bristol-Myers Squibb trial of aripiprazole on schizophrenic patients with "metabolic syndrome". I conclude by discussing AstraZeneca's blockbuster cholesterol-drug Crestor in the context of race-based clinical trials.

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Prisons as Biocolonies: Race, Biomedicine, and the Ethics of Using Prisoners as Research Subjects

It is not uncommon for people of African and Latin descent to embrace a colonial framing to understand how Western institutions have exploited their material and human resources in a manner that is not unlike the treatment of indigenous peoples. What's remarkable, however, is that at the same time biomedical researchers have turned to indigenous communities to stake lucrative claims in the proverbial 'land grab' associated with the human genome, they are increasingly exploring how other vulnerable groups of color can also be profitable in this endeavor.

Clinical trials are becoming an important case in point. Outsourcing clinical trials to "third world" countries and their indigenous populations – where the costs are low and the impacts hidden – has become increasingly common. Yet, there are strong indications that American researchers may be turning their attention to vulnerable populations closer to home: prisoners who, coincidently or not, are disproportionately Black and Brown. A recent report from the Institute of Medicine has suggested softening current restrictions on using prisoners in clinical trials – restrictions that were initially put in place in the mid-1970s after reports of widespread abuse. As health care drifts towards developing biomedical interventions with unknown and often dangerous side effects, what would this shift mean for minority communities as research subjects? Using biocolonialism as a frame and this proposed policy shift regarding prisoners and clinical trials as a case study, this presentation will look at biomedicine's evolving relationship with racial minorities, their risk for becoming the testing grounds for new endeavors such as gene therapy and stem cell research, and how insufficient oversight can adversely affect communities of color.

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Race, Genetics, and Forensic Analysis

Forensic DNA databases may now be searched using algorithms that detect the close relatives of criminal individuals whose samples are maintained by state and national law enforcement agencies. "Race, Genetics, and Forensic Analysis" will explore the question of whether genetic resemblance to a criminal forensic sample is reasonable cause for suspicion, investigation, and detention, and whether it is just punishment of criminals for the state to acquire from them the material basis for lifetime genetic surveillance of close family members. The systematic impact of investigations generated by such searches, and the likelihood of creating or perpetuating stigma or caste, will be explored in light of the skewed racial demographics of samples in forensic DNA databases.

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Commercializing Race: People as Patents

Intellectual property rights are increasingly being used to turn nature and life processes into private property. Patents by their very nature limit what others can do, offering a period of exclusive rights over the invention to the patent holder in return for public disclosure of information in order to encourage innovation. In the case of a human gene sequence, however, the "invention" is the information; disclosure does not allow others to build on it. It's important to note that some discoveries – such as products of nature – are not patentable.

Why, then, has the United States Patent and Trademark Office (USPTO) determined that human genes are patentable? While the USPTO and some courts have accepted applicants' argument that isolated and purified products of nature are eligible subject matter for patents, genes' useful characteristics – such as their ability to bind to another complementary strand of DNA for diagnosis or their ability to code for a particular protein – are not invented by scientists. Rather, they are natural aspects of the genes themselves. This raises several questions, such as whether the claims contained within patents covering human genetic material are valid, and what are the consequences of policies that allow gene patents?

One reason patents on genes are troubling is the impact they have on research and patient care. A gene patent holder has the ability to prevent researchers from engaging in related genetic research. For example, the holder of several breast cancer gene patents has required researchers to stop their breast cancer research and has prevented other companies from looking in patients' blood for several mutations that have been linked to cancer. Such use of patent rights could disproportionately affect minorities and racial groups if research into certain genetic conditions was halted. It could also serve to "essentialize" certain traits thought to be associated with racial or ethnic groups if gene sequences that are disproportionately associated with those traits are commercialized.

In some cases, the granting of a gene patent violates a person's religious or cultural beliefs. Many religions, including Southern Baptists, oppose gene patents as contrary to their religious beliefs. Other religious and ethnic groups, including some indigenous people, have concerns about the use of their tissue for research and commercialization. In a case brought against Arizona State University, members of the Havasupai tribe agreed to participate in diabetes research studies, but later discovered the university had allowed their genetic material to be used for research into mental illness, migration, and origin studies. This use violates the Havasupai's cultural and religious beliefs.

Gene patent holders have the potential to reap great financial rewards, which encourages the commodification of people and their tissues. This talk will work from these and other examples to look at how, rather than being part of "mankind's common heritage," people's genes have increasingly become the property of their patent holders and this trend's racial, social, and legal implications.

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Patenting Race

This article applies insights from critical race theory to examine an emerging phenomenon in biotechnology research and product development – the strategic use of race as a genetic category to obtain patent protection and drug approval. A dramatic rise in the use of race in biotechnology patents indicates that researchers and affiliated commercial enterprises are coming to see social categories of race as presenting opportunities for gaining, extending, or protecting monopoly market protection for an array of biotechnological products and services. Racialized patents are also providing the basis for similarly race-based clinical trial designs, drug development, capital raising and marketing strategies that carry the implication of constructing of race as genetic out to ever widening and consequential segments of society.

The introduction of race in the field of patent law as an adjunct to biotechnological inventions producing a new political geography of intellectual property in which the very "metes and bounds" of the territory covered by patents are becoming racially marked. As patents are racialized, racial identity itself is becoming a patentable commodity whose value is being appropriated to expand market control and extend the market life of their products. Generally speaking, however, the people capitalizing on race are not necessarily those who belong to the racially identified groups, but rather those corporations that are literally "investing" their patents and products with race to gain commercial advantage in the research, development, and marketing of new biotechnology products. Patenting race may thus have profound implications both for the equitable distribution of benefits derived from biotechnology and for broader social understandings and mobilizations of race.

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‘Solaro’ and selling protection from the tropical sun: British ideas of medicine and hygiene in warm climates, 1900-1920.

Discussions of tropical clothing in textbooks and manuals between 1870 and 1914 focused on the best type of material to maintain equilibrium of physiological functions, and later, protection from the photochemical effects of the sun. In both cases the skin and local practice of indigenous inhabitants was the source of much inspiration. ‘Solaro’ was a major brand of clothing that emerged in the early twentieth century explicitly based off indigenous skin. Considerable technoscientific networks were established in Britain around the production and marketing of clothing worn in tropical climates, with brands such as ‘Solaro’ promising white Europeans protection from dangers of the tropical sun. This paper argues that such advertisement and promotion reveals British perceptions of racial superiority by being able to manufacture protection given naturally to indigenous inhabitants, but also the intense anxiety and uncertainty that none of it was working.

The selling of tropical clothing also informs us about how British travellers perceived themselves in tropical climates. Historians have assumed that clothing worn in the tropics served the purpose of maintaining strict separations between coloniser and colonised—identifying and legitimating the rule of a few over many. Rather than maintaining a strict boundary, I wish to demonstrate how tropical clothing helped create identities that were neither distinctly British, nor local. When adorned in clothing designed to mimic qualities of local skin, while blending the sartorial effects of metropolitan gentleman and colonial explorer, the wearer assumed an identity that at once separated and connected them with Britain and the tropical colonies. An image of the heroic and unconstrained colonial servant was actively promoted in clothing catalogues and by tropical outfitters—as opposed to the constrained and emasculated city clerk. Rather than simply reinforcing British values, civility and class, clothing worn in the tropics helped create a unique identity vastly different than when located in the ‘safe and civil’ climates of Britain. Wearing cloth believed to provide benefits nature had bestowed naturally upon local inhabitants reminded white Britons of the drastically different environment they found themselves in, and rather than simply reinforcing and upholding their Britishness, tropical clothing reflected how far away they were from it.

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"The Fair, the Dark and the Ugly: Mediating the interests of technology, business and societies in the third world economies"

Looking attractive has almost always pervaded all human cultures and permeated almost all human psyches, both consciously and sub-consciously. Though, looking attractive has deep normative notions depending where you are, one of the most universally recognized attributes has been to look fair.

While anthropologists and sociologists have engaged in answering the 'why' of this question, technology and business in conjunction have successfully converted it into a lucrative enterprise, especially in the third world economies. In a variety of products ranging from bleaching, skin lightning and fairness creams and lotions, these products have extremely strong markets in certain African, South Asian and South-East Asian markets. Though ironically an ever burgeoning consumer force in this segment promises attractive incentive to both business and technology, some countries have reacted by a range of restriction ranging from curbs on certain kinds of advertisements to complete ban on products, citing them to be subtly hegemonic and overtly racial.

The focus of this paper records the expanse of this market and then goes on to evaluates the potential growth of science and business in this area. Moreover, the debate of marketing and researching such products which are often considered racially obtrusive and socially insensitive or even harmful is also visited in detail, and the paper serves as an illustrative mechanism as to how to balance the interest of scientists, entrepreneurs, social actors and the populace resorting to classical and modern techniques of mediation and applying them in contextual understanding and finally forging an alternative remedy relying on the discourses of Technology, Law, Business, Economics, Sociology and Anthropology by the means of an inter-disciplinary methodology, giving myriad perspective in this sector of the market.

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Kampo: a Racial Science/Business?

Kampo is the general term for traditional medicine in Japan. Hugely influenced by its Chinese origin, and legally abolished when Meiji's government moved toward modernization, kampo is usually considered an insignificant deviation of Chinese medical thoughts, or an Edo legacy that has waned and been replaced by synthetic pharmaceuticals. Yet, these statements fail to explain why kampo drugs still are welcomed and popular today, without the state's sanction. Some kampo drugs remain available in proscriptive repertory; meanwhile, in the over-the-counter (OTC) drug market, where most products claim to have kampo components, the volume of consumption is quite large.

Can the cultural conception of the Japanese race play a role in explaining this phenomenon? Perhaps. Japan is famous for its insistence on the uniqueness of its bodily composition, and kampo's popularity seems to fit this cultural imagination: what remedy can cure a Japanese body better than Japan's own traditional medicine? But questions arise if we view kampo as a purely racial science. For instance, why does the Japanese government hesitate to grant kampo a legal position, while acupuncture and moxibustion, which belong to the same therapeutic tradition as kampo, have not been abolished by modern medicine?

Echoing recent STS literature on "regulatory culture" and the role the state plays in shaping it, this paper aims to achieve a historical understanding of kampo's regulation during the period of Japan's modernization. It will investigate what the Japanese state did in forming this medical tradition and what other traditions became without its support. Complicating our understanding that considers kampo as just a racial science or business, this study hopes to question the seemingly perfect marriage between the Japanese race and kampo, as well as science and business.

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Packaging Race for Students:
How Biology Textbooks Sell Human Difference

For decades, writers of American biology textbooks have carefully deliberated when and how to teach the theory of evolution. Given the debate over creationism, such sensitive material could jeopardize their sales. And with the consolidation of the textbook industry from many small publishers that targeted a local community, to a few multinational behemoths that sell to myriad school districts, the tendency to avoid controversy has only grown stronger.

Although textbook treatments of race have received little scholarly or media attention, they are subject to the same restrictive commercial forces as lessons on evolution. Texts present the vision of race that their publishers judge most saleable, particularly in the mostly Southern states that draw up centralized textbook adoption lists. Results include books that counterbalance the "out of Africa" account of human history with the polygenetic "multiregional hypothesis" that stresses separate origins for each race, and books that eschew the overt racial discussion of the past yet quietly insert race into their most basic teaching of human genetics.

This paper traces the evolution of American high-school biology textbooks since the 1950s in order to describe how they define, use and illustrate the race concept. It links the many changes in their approach to both societal change and developments in the U.S. textbook industry. Based on a sample of 80 textbooks, I show how writers and publishers increasingly backed away from the direct engagement of "the races of man" that characterized earlier books without however forgoing more subtle lessons about the ostensibly fixed, essential nature of race. Textbooks today are caught between two audiences: one that is offended by mention of race, and another that takes issue with claims of common origins for all races. The result is a literature that teaches race through what it says, illustrates, implies—and excludes.

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Salt Sensitivity and the Middle Passage

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Race, Populations, and the New Genomics

The approval of BiDil by the US Food and Drug Administration (FDA) as the first race-specific drug, brought the contentious debate over genomics, race, and health disparities squarely into the sphere of the market. While the full societal impact of this decision remains to be seen, there is no question that it is rooted in a concept of race as genetically-based groupings. How can we account for the resilience of genetic understandings of race manifest in the FDA decision? While there has been extensive scholarship interrogating biological notions of race, little attention has been paid to the assumptions about the nature of "populations" that both inform contemporary biological and medical research and that underlie the concept of race. Any discussion of the new science of race must begin, we argue, with an examination of the meaning, not only of race and ethnicity, but also of "population."

Focusing specifically on Africa in the 1930s and 1940s, this paper explores the history of the production of the concept of "population." In the so-called "Golden Age of Ethnography," university-trained social anthropologists, primarily from Britain and South Africa, took to the field to systematically study, organize, and order the world's diverse peoples. Intent on creating a scientific methodology of neutral observation, they replaced amateur travelers, traders, colonial administrators, and missionaries as authoritative knowledge producers about the customs, beliefs, and languages of indigenous peoples. At the same time, linguists were engaged in an intensive project of construction of African languages, mapping language onto primordial "tribal" territories. We argue that the notion of populations or "tribes" as discrete units suitable for scientific sampling and classification emerged in the 1930s and 1940s with this ethnographic turn in social anthropology and the professionalization and institutionalization of linguistics in Western and South African universities. Once named and entered into international atlases and databases by anthropologists in the US, the existence of populations as bounded entities became self-evident, thus setting the stage for their use in large-scale population genetic studies and the contemporary reinvigoration of broad claims of difference based on population identification.

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