The Order of People and the Promise of Post-Racial Classifications

Tino Plümecke, Jenny Reardon, Nils Ellebrecht, Andrea zur Nieden, Veronika Lipphardt, Isabelle Bartram

The Nature of Human Classifications in Socio-Political Entanglements

To classify is a fundamental human practice. Systems of classification organize perceived similarities and differences in order to reduce complexity, identify patterns, and recognize relationships. While many who construct these systems argue that they are neutral tools of knowledge and governance, ample literature in the social sciences demonstrates that they are sites of power (Harding 1991; Bowker and Star 2000; Hacking 2002). Perhaps nowhere are these entanglements of systems of classification with matters of power more starkly revealed than in the life sciences. The life sciences constitute authoritative knowledge regimes whose classification schemes routinely exceed the boundaries of laboratory practice. These systems differentiate people using terms such as "race," "ethnicity," or "ancestry"—powerful concepts that shape public discourse, inform healthcare policy, and structure modes of governance (Roberts 2011; Nelson 2016; Reardon 2017). Through their adoption by commercial genetic ancestry companies, law enforcement agencies, and other institutional actors, these systems gain considerable economic and political weight. They shape understandings of how human beings are positioned within various orders, orders that determine who should have access to resources, rights, and recognition (Lipphardt et al. 2021; Bartram, Plümecke, Schultz 2022; M'charek and van Oorschot 2023).

Because of their entanglement with these consequential issues, these life science systems of classification have long been contested and criticized. Rather than treating them as stable or objective ordering devices, many have sought to expose and describe how they emerge through historically situated processes of negotiation, positioning, and epistemic struggle. Charles Darwin, for example, denounced their precarious and constructed quality in *The Descent of Man* (1874), arguing specifically against the excessive proliferation of race classifications among his contemporaries: "Man has been studied more carefully than any other animal, and yet there is the greatest possible diversity amongst capable judges whether he should be classed as a single species or race, or

as two (Virey), as three (Jacquinot), as four (Kant), five (Blumenbach), six (Buffon), seven (Hunter), eight (Agassiz), eleven (Pickering), fifteen (Bory St. Vincent), sixteen (Desmoulins), twenty-two (Morton), sixty (Crawfurd), or as sixty-three, according to Burke" (Darwin 1874, 174). For Darwin, this taxonomic chaos did not signal a lack of careful work, but rather the inherent instability of attempts to fix human difference through classificatory reason.

Social theorists in the twentieth and twenty-first centuries increasingly took up the question of whether there are underlying social logics that generate and sustain this instability. One of the most influential interventions came from the French theorist Michel Foucault, who—beginning in the late 1960s—sought to systematically unearth the rules and logics that shape classification schemes in what he called the *sciences humaines*. In *The Order of Things*, he famously asked: When "we say that a cat and a dog resemble each other less than two greyhounds do, what is the ground on which we are able to establish the validity of this classification with complete certainty?" What is the "grid of identities, similitudes, analogies" that enables the creation and ordering of things? (Foucault 2005/1966, xxi).

For Foucault, such grids are not neutral schemes of representation of an underlying reality, but instead are the product of implicit and largely invisible grids of rules, norms, and assumptions that determine what can be thought and said, and what counts as knowledge in a particular historical era. He labeled these grids *epistemes*. According to Foucault, epistemic structures are unique to eras. When one episteme gives way to another, this moment of discontinuity is characterized by an epistemological rupture in which the foundational grids, roles, and norms are restructured. As a result, conceptual vocabularies, modes of inquiry, and even entire research areas and disciplines may become obsolete, while others emerge and gain legitimacy. For Foucault, the shift to the modern episteme laid the groundwork for the emergence of new disciplines such as biology and economics that rendered "the human" an object of study. The result was the epistemologization of "the human" (Foucault 1972).

Foucault's work thus repositioned the human sciences, unsettling them from their position as linear extensions of progress and cumulative knowledge. Rather than revealing pregiven, objective truths, he showed that their classification systems act as instruments of ordering that acquire legitimacy through the very regimes of knowledge they help to constitute.

The consequences of such classificatory regimes—particularly in the life sciences—have been far from benign. Rooted in Enlightenment ideals of systematization, order, and universal reason, early efforts to classify human beings were shaped by the assumption that social and moral differences could be grounded in natural law. Philosophers such as Montesquieu and Kant contributed to this transformation by linking human difference to environmental and physiological explanations, thereby laying the conceptual groundwork for biologically anchored forms of classification and differentiation. The success of this naturalizing classification system lay in its ability to draw upon purported biological knowledge of human differences to justify the social order. As theorists Michael Omi and Howard Winant have pointed out, this system created a conceptual order "that signifies and symbolizes social conflicts and interests by referring to different types of human bodies" (Omi & Winant 2015/1986, 110). These classifications

based on "nature" also helped to consolidate further practices of stratification, such as those based on gender, sexuality, class, or illness/disability. All these newly developed scientific differentiations sought not only to bring order to the "nature of society," but also to justify social inequalities created by colonial conquests and the unequal distribution of social goods generated by the gendered division of labor and capitalist relations of production.

These differentiating taxonomies were further elaborated and institutionalized by naturalists, physicians, ethnologists, and anthropologists such as Blumenbach, Linné, Bernier, Meiners, which helped give "race" the status of a core epistemic and structural principle for organizing societies (Mosse 2020). By the first half of the twentieth century, state authorities in multiple nations deployed these taxonomies that ranked humans into inferior and superior races to rationalize exclusionary policies (Proctor 1988; Stern 2016).

In response to the atrocities committed by the Nazis under the banner of racial science, from the mid-1930s a growing number of voices called for the removal of "race" as a concept within the life sciences (Barkan 1992). While this argument is now associated with social scientists and humanists, the argument that race should not be used in biology was put forward by biologists as early as 1935. In that year, Julian Huxley and AC Haddon published *We Europeans: a Survey of "Racial" Problems*, in which they argued that the concept of "race" had been corrupted by its use in society and should be replaced by "ethnic group" (Huxley and Haddon 1935). Social scientists and humanists drew upon these arguments by biologists to argue that race was not a natural reality, but a social construct (Gilroy 2000; Smadley and Smadley 2005).

The Limits of Social Constructivism

Today, this view that race and its derivatives are social constructs has become a central pillar of a powerful epistemic framework that shapes how many people—particularly in the Euro-American West—interpret and make sense of the world. For many theorists, this shift is the result of the kind of epistemological shock that Foucault theorized (Barkan 1992). Yet, whatever its radical and disruptive effect was at the time of its first emergence, we argue that the subsequent uptake of the idea that race is socially constructed has led to the loss of the critical edge of Foucault's genealogical analysis. Too often today the argument is accompanied by a rote acceptance of a flattened, depoliticized assertion of constructivism (Hacking 1999). Natural and social scientists have all too easily and happily acceded to the argument that race is social-political construct and should not be used anymore as a bioscientific category. Perhaps the ease of their acceptance was the result of the productivity of the argument. For natural scientists, arguments about social constructionism have facilitated a distancing of their science from the legacy of scientific racism. Scientific racism, they often argue, was characterized by deterministic typological thought, and not the dynamic perspectives they see in their population-based approaches (Haraway 1989; Gannett 2001). For social scientists, this distancing has buttressed the legitimacy of their work, with the argument that their studies have deconstructed a concept responsible for the loss of millions of lives.

Both camps converged in celebrating the rejection of "race" as a scientific category. The historian of science Elazar Barkan (1992) went so far as to argue in his influential

book, *The Retreat of Scientific Racism*, that this rejection of race represented a revolutionary shift ushering in a new scientific paradigm, one in which a dynamic paradigm based on the notion of populations replaced static tradition of thought based on race. Over the course of the 1990s, a growing number of population geneticists and cultural theorists credited this Kuhnian scientific revolution to the triumph of truth over ideology and the demonstration by natural and social scientists alike that race did not map onto reality (Gilroy 2000, Cavalli-Sforza 2001).

Yet this powerful narrative of the social construction of race created a critical lacuna which this volume seeks to address. As research over the past two decades has begun to elucidate, life scientists have continued to mobilize racializing concepts, at times even using the vocabulary of the old systems of racial classification—even when they reject race as a biologically meaningful term (Gannett 2001; Duster 2015). The continued reliance on such concepts despite the widespread adoption of stances that reject race suggests that we may be approaching the limits of constructivist critique. Though social and life scientists reject race as a concept in theory and in recurring proclamations and statements, it remains alive in mundane practices, routines, research designs, and interpretations. The once radical gesture of revealing the socially constructed nature of race and the employment of deconstructivism today risks losing its critical force.

This observation, we argue, should prompt a reconsideration of established analytical strategies. Instead of further refining critiques within the same epistemological framework, what we need is a more profound shift—a new epistemological rupture. Such a rupture would not stop at deconstruction, but would instead direct attention toward the durability, materiality, and institutional embeddedness of racial classifications. It would shift the analytical gaze toward the mechanisms through which these constructs continue to shape lived experiences, reproduce structural inequalities, and persist—even under the banner of emancipatory, egalitarian, or ostensibly postracial commitments.

Postracial Racialization

This volume invites this shift. In so doing, it builds on the work of scholars inspired by Stuart Hall's call to attend to the material, historical reinventions of race and racism (Hall 1986), and especially those that grow out of the very denial of the relevance of race and racialization (Goldberg 2009; Morning and Maneri 2022; Hawthorne 2024).

The articles in this volume pay particular attention to the powerful role that technoscientific realms continue to play in these reinventions of race and the new forms of racism they animate. Authors provide examples of how to critically engage with the continued production and reproduction of race and racialization in these realms—despite the prevailing narrative that scientists moved beyond race at the mid-point of the twentieth century. In so doing, they shed light on what we refer to as the phenomenon of *postracial racialization*.[1] Despite criticisms of the concept of racialization, particularly the tendency to depoliticize the term and obscure the intertwined processes and diverse,

1 This formulation is inspired by the "Theorizing Race after Race" group organized by Jenny Reardon and Camilla Hawthorne at the University of California, Santa Cruz. See https://scijust.ucsc.edu/2018/11/27/theorizing-race-after-race/.

overlapping dynamics that shape race and racism (e.g., Goldberg and Essed 2002), we maintain its analytical value for this volume as it highlights the situated, processual construction of human classifications without reifying race itself (Rattansi 2007; M'charek et al. 2014). This perspective enables nuanced engagement with the practices of sorting, of ascribing similarity and difference, of boundary work, and of defining human groups in contemporary life science research. It is from this vantage point that this volume takes its point of departure.

Specifically, we employ the term racialization not to signal a return of the discredited concept of "race," but to denote a problem space: one in which contested practices, categories, and epistemologies *bio-logicalize* social differences in a manner that historically adheres to the problem of race. Although new terminologies and classificatory tactics have emerged to articulate human classification in the context of what is often described as a "postracial" era, the core issues remain unresolved. Despite the promise made by many genomicists to move beyond race (Fujimura and Rajagopalan 2011)—and indeed all human group categories—over the past two decades, its use of classification systems has intensified. Instead of moving away from the notion of distinct human groupings, scientists in various fields continue to rely on such frameworks to make sense of genetic variation. In archaeogenetics, for example, researchers frequently organize genomic data according to broad continental or national labels in efforts to reconstruct historical patterns of human migration (Reich 2018). Similarly, forensic scientists commonly categorize DNA samples using typologies based on geographically, racially, or ethnically defined reference populations (M'charek, Toom, and Jong 2020; Bartram, Plümecke, and Schultz 2022). In such instances, scientific procedures structure genetic diversity into predefined population groupings. The central question is what kind of tactics and classificatory practices enable these systems that are deployed to reject race, even as they draw on some of the very same epistemic and structural foundations that structure racial thinking.

Unearthing Infrastructural Logics

Postracial racialization is not a universal phenomenon that manifests and operates in the same way around the globe. Rather, it takes shape through locally and historically specific configurations that vary across national, institutional, and disciplinary contexts. This volume is the first to provide a *global transdisciplinary analysis* of how postracial racialization prevails across the life sciences. Highlighting cases from diverse countries around the globe and across multiple scientific disciplines, we illuminate the tactics and techniques through which human biological differentiations are maintained, even when racial logics are being denied. Building on our work as a research group based in Germany (see acknowledgments) that investigates the social and scientific effects of biological differentiations, we have broadened our scope in this volume, to countries outside the dominant research focus on the United States.

Unlike much existing work in the social sciences, which focuses primarily on race in society or policy, this volume turns the spotlight back on the sciences themselves. Crucially, we do not treat "sciences" as a monolith. Instead, we take the life sciences to comprise a heterogeneous set of practices, actors, and institutions, each with its own epis-

temic cultures, methodological conventions, and political entanglements. Accordingly, the contributions in this volume examine how postracial racialization manifests differently, and sometimes similarly, across disciplinary, national, and institutional sites. The contributions in this volume, therefore, consider human classifications conceptually and analytically as practices that are deeply embedded in broader symbolic, organizational, and political frameworks, in everyday life, in science, and in state infrastructures. These classificatory practices raise several pressing analytical questions: What is the specific utility of classifications of people into a manageable set of groups? What criteria are used to sort people into groups? How are classifications technically constructed, stabilized, and legitimized in scientific infrastructures? And to what extent do they not merely represent, but actively produce and govern classifications of human diversity?

While previous scholarship has critically examined the persistence of racial logics within structures of neoliberal governance and narratives of postracial ideology (e.g., Goldberg 2015; Hawthorne 2022), this volume turns its attention to the situated practices through which postracial racializations are enacted in the life sciences. It examines how forensic scientists attempt to identify suspects, how population geneticists reconstruct ancestral histories, and how biomedical researchers assign group labels to develop targeted medical interventions. Across these fields, postracial racialized classifications operate not as a claim about an explicit biological essence but as an infrastructural logic: they are embedded in datasets, encoded in algorithms, and mobilized through technoscientific reasoning. What unfolds is not the simple return of race, but its transformation—muted and reframed, and yet no less impactful in its social and political effects.

Following the traces of postracial racialization across diverse global contexts also reveals how the discursive and political framings of classifications of human diversity have changed in recent decades. Whereas nineteenth and early twentieth century racial and ethnic classifications often served to legitimate exclusion, oppression, and the legitimization of social hierarchies, today they are increasingly framed as tools for antidiscrimination, inclusion, and social justice initiatives (Epstein 2007; Benjamin 2009; Bliss 2012; Reardon 2012). This transformation, however, is neither linear nor universally embraced. In countries such as Germany, official discourse increasingly seeks to eliminate the use of the term "race" altogether. France, the Netherlands, and Poland refrain from including racial or ethnic categories in censuses, population registers, and official surveys. In countries such as the United States and Brazil, by contrast, racial and ethnic classifications remain central to census-taking, public policy, and biomedical research, and are framed as essential instruments for monitoring inequalities and implementing equity-driven interventions. These divergent strategies reflect not only distinct historical trajectories of ideas and practices of race and racism, but also competing epistemologies regarding how to recognize, measure, and ultimately address social justice.

Contemporary Modalities of Continuing Human Classifications

The contributions assembled in this volume investigate how postracial racializations are enacted, under what conditions they take shape, and through which tactics and logics

they are sustained across this wide range of scientific and sociopolitical domains. While each chapter engages with a distinct empirical field, they all share a concern with the continuities, ruptures, and emerging reconfigurations that characterize contemporary practices of human classification. A particular focus lies on the modalities through which race is formally displaced—substituted by adjacent terms such as ethnicity, ancestry, or population—without necessarily abandoning the classificatory impulses and structures associated with it.

Although the chapters approach the dynamics of postracial racialization from diverse disciplinary and methodological vantage points, four interrelated dimensions of human classification in the life sciences can be identified across the volume. These dimensions, outlined below, illuminate how actors in the life sciences navigate the enduring problems of race and respond to critiques of racialization, while simultaneously continuing to register, differentiate, and classify human biological variation.

Beyond Categories and Back Again

New methods—particularly those employed in genetics—seek to move beyond the problem of categorization. In contrast to research approaches that rely on sharply delineated categories, these approaches aim to capture human variation exclusively in terms of gradients (clines), proportions (admixture rates), or clusters (as in genome-wide association studies). Because this approach to variability largely avoids the use of racial typologies, it has come to be associated with the promise of a scientifically grounded postracial order. This promise is further reinforced by the argument that methods which do not rely on predefined categorical distinctions—such as racial classifications—are better aligned with genetic reality, since biological variation does not consist of clearly bounded genetic groups but of continuous frequencies of variation. Advocates of this approach also argue that thinking of differences only in terms of degrees protects bioscientific knowledge from political co-optation. Their hope is that if human differences can be understood fundamentally as transitional, proportional, or clustered, it will be possible to permanently eliminate the idea that genetically defined human groups exist.

Yet this tactic has not succeeded in transcending categories. As the contributions in this section show, the methods employed fail to deliver on their promise to move beyond categorical thinking. Human differentiations, even when initially operationalized through gradients or clusters, remain susceptible to being retranslated into categories. Often it is the scientists themselves who revert to categorization—for reasons of clarity, communication, simplicity, or a connection to what they take to be common sense. Perhaps one of the most prominent examples of this dynamic is the *1000 Genomes Project*, which in its final publications ultimately distinguishes five geographically localized major groups (Auton et al. 2015).

To address this phenomenon, contributions in this section approach classification as a process of meaning-making—one that produces social and epistemic effects. By analyzing the specific decisions, emphases, and omissions within scientific practices, the chapters reveal how certain distinctions are foregrounded and rendered significant, while others are marginalized or deemed irrelevant. This gives rise to fundamental questions: What drives particular forms of human variation to be marked as meaningful dif-

ferences, while others remain unrecognized? Why are continuous forms of variation repeatedly collapsed into a limited number of discrete categories? And what are the implications of classificatory systems that present themselves as neutral or technical, yet ultimately reproduce familiar patterns of group differentiation?

These questions are taken up concretely in the chapter by Filipa Queirós and Rafaela Granja, who explore how the social function and political charge of classificatory distinctions materialize in the field of forensic genetics. Focusing on the visual representation of suspects, they analyze how extended DNA analysis is used to construct collective images of suspect populations in two distinct cases—an artistic exhibition and a criminal investigation in Canada. Through detailed case studies, they show that while DNA phenotyping is marketed as a cutting-edge technique capable of extracting fine-grained individual traits, in practice it often yields generic, racialized representations. Rather than producing individualized likenesses, the technology tends to reinforce typological, group-based visual cues. Their analysis reveals how such visualizations not only raise concerns of scientific validity but also carry serious social consequences, particularly by reifying stereotypes and contributing to the criminalization of entire communities.

A further in-depth insight into the practices of contemporary DNA analysis is provided by the chapter by Thiago Pinto Barbosa. Focusing on the creation and dissemination of the ancestry categories "Ancestral North Indian" and "Ancestral South Indian" in population genetics, Barbosa analyzes how these terms emerged as seemingly neutral replacements for the racially charged Aryan/Dravidian binary. Situated within the broader context of nationalist politics and caste hierarchies in India, the article traces how bioscientific classifications are crafted through rhetorical and methodological maneuvers that respond to, and simultaneously shape, political sensitivities. While appearing to avoid the overt racialization of older classificatory schemes, the new terminology effectively reconfigures older categories of difference within a nationalized idiom that aligns with dominant Hindu nationalist narratives of unity and indigeneity. The article demonstrates that the act of "making up" new categories is an unstable, contested, and historically layered instance of classification in contemporary genomics.

As the next chapter shows, such classificatory practices do not remain confined to their original domains but travel across scientific disciplines, becoming embedded in new epistemic frameworks and adapted to categories such as "population" or "ancestry." In these new contexts, they are reinterpreted, infused with new meanings, and often give rise to alternative—but similar reductive—narratives. Robert Meunier's chapter examines how typologies of modes of subsistence, originating from hunter-gatherer studies in fields such as archaeology and anthropology, are adopted in microbiome research. He analyses how the transfer of this classificatory model into evolutionary and biomedical contexts entails significant political, ethical, and epistemological implications. In particular, he shows how its application can reinforce essentialized narratives of difference, often along racialized lines. His analysis points to the risks of importing typologies into new contexts without critical scrutiny and demonstrates how classificatory practices can reinforce hierarchies even when cloaked in the language of scientific objectivity.

Taken together, the contributions in this section demonstrate that efforts to move beyond racial categories through postcategorical genetic methodologies often end up reproducing the very logic they seek to overcome. Despite claims of neutrality and preci-

sion, such approaches continue to rely on categorical group-based distinctions. As the following section will show, these constraints not only sustain older categories but also stimulate their transformation and rearticulation.

New Categroies but Old Meanings

The second section of this volume turns to a further tactic of postracial classification: the attempt to replace "race" with other terms, which in turn entails certain classification practices. In many societies—particularly outside the United States—the term "race" has been officially abandoned, often due to historical, normative, or political sensitivities. Rather than transcending classification altogether, efforts have emerged to replace "race" with ostensibly more neutral terms such as "ethnicity, migration background, origin, or ancestry." These reformulations are embedded in a broader global trend in which policymakers, institutions, and scholars increasingly aim not only to recognize human variation, but also to make it the object of political action—frequently with the aim of enhancing the visibility of marginalized groups and promoting more equitable access to rights and resources.

The chapters in this section critically examine whether such classificatory practices constitute a genuine break from racial logics—or whether they rearticulate, adapt, or even reinforce them under new labels. The contributions trace how categories are (re)shaped within the intersection of historical knowledge regimes, political strategies, and bureaucratic procedures. Often, these newly legitimized categories remain entangled with older racial distinctions and can also give rise to novel forms of inequality.

Crucially, these analyses challenge the assumption that classifications simply report on preexisting human differences. Instead, the chapters highlight how classificatory schemes are locally negotiated and socially produced—emerging from dynamic interactions among science, state power, and civil society. To understand their effects, classifications must therefore be analyzed not as fixed descriptors but as elements within an epistemic economy in which knowledge-making, political governance, and identity formation are deeply interwoven.

This kind of analysis is taken up in the chapter by Andrea zur Nieden, Laura Schnieder, Isabelle Bartram, Nils Ellebrecht, and Tino Plümecke which examines how the concept of "migration background" became a locally specific substitute for "race" in German epidemiological research. While the term "race" is largely avoided in Germany, as it tends to be identified with biologistic thinking, "migration background" is used to capture social differences in health outcomes—echoing inclusion politics like those in the United States. Drawing on a systematic literature review and qualitative analysis of scientific publications, the authors trace how the concept of migration background operates as an administrative technology of difference that often reintroduces ethnic or racial meanings. They trace how it becomes conflated with ethnicity, nationality, religion, and culture, thereby reinscribing essentialized notions of difference into public health research. By situating these findings within broader debates on public health, diversity, and inclusion, the chapter calls for a more reflexive, critically informed approach in health research and policy.

The chapter by Isabelle Bartram and Tino Plümecke expands the analysis of classificatory practices in the German life sciences by examining the widespread yet conceptually unstable use of the concept "ethnicity." Their contribution reveals how the term functions in highly variable ways, with significant ambiguities and challenges in the assignment, definition, and interpretation of ethnic classifications, drawing on social, biological, and genetic dimensions. Rather than reflecting a coherent or consistently applied concept, "ethnicity" emerges in the German context as a contested and fluid construct, shaped by national political agendas, historical legacies, societal expectations, and disciplinary conventions. The analysis highlights the epistemic and practical tensions that arise when ethnicity is mobilized as a classificatory tool in scientific research, revealing its role in both reproducing and obscuring racializing logics.

A further example of the reinvention and persistence of racialized logics is explored in Jaehwan Hyun's analysis of genetic and genomic research in South Korea from 1945 to 2022. His chapter examines how locally embedded terms such as *injong* and *minjok* have functioned as central grouping concepts and sustained racialized frameworks in scientific discourse, despite efforts to distance the field from explicitly racist terminology. Hyun's chapter not only sheds light on the interplay between global and local scientific practices and shows how translations and interpretations of grouping categories are shaped; it also underscores how translations themselves perpetuate essentialized frameworks.

The chapter by Nicole Sommer analyzes a further conceptual reconstruction. It offers an inquiry into the political semantics of the concepts of "descent" and "ancestry," particularly in the context of the emergence of the term "people of African descent" in the work of international institutions such as the United Nations. Drawing on a qualitative content analysis of UN documents and interdisciplinary literature, the article examines how genetic data serve as both personal tools for self-discovery and as political instruments for collective legal claims-making, political mobilization, and collective memory. While "descent" functions as a legal and political category mobilized by international institutions to recognize histories of enslavement and diaspora, "ancestry"—especially in the context of DNA testing—refers to individualized biogeographical narratives. By analyzing the meanings and implications of ancestry and ancestors, the article questions how these terms influence or diverge from each other to shape the meaning and narrative of people of African descent and interrogates how these concepts contribute to the shaping of identity politics.

Ricardo Gomes Moreira offers another study on the category "ancestry" in the context of modern population genetics in Portugal. His contribution examines, in particular, laboratory practices for mapping genetic diversity and exploring human evolutionary history. Based on ethnographic observations in two genetic laboratories, he examines how ancestry is operationalized in the different stages of scientific work—from planning and sample collection to data analysis and dissemination—and reconstructs how the category takes on a dual role as a molecular construct and sociocultural concept of classification. The chapter also criticizes the danger of conflating molecular ancestry and social identity and emphasizes the need to distinguish between genetic classifications and sociopolitical constructs such as ethnicity and race.

Taken together, the contributions in this section demonstrate how the local efforts to replace the language of race with seemingly neutral alternatives rarely mark a clean epistemic break. Instead, they often reconfigure older classificatory logics within new semantic, administrative, or scientific frameworks—thereby reproducing or even expanding the reach of racialized distinctions.

Global Power and the Circulation of Standards

This section examines a third tactic of postracial classification: the negotiation and rearticulation of globally circulating standards within specific national and disciplinary contexts. As classificatory standards circulate transnationally, they undergo semantic shifts and produce new sets of social and political effects. Rather than moving unchanged across borders, standards have been contested, reinterpreted, and locally adapted—often in ways that reveal tensions between global scientific infrastructures and national epistemic, demographic, or political realities.

These tensions and transformations are especially evident in how regulatory and scientific categories of race and ethnicity developed in the United States have been adopted into international clinical trial protocols, regulatory guidelines, data infrastructures, and publication standards. The application of categories historically and culturally specific to the US in other regions of the world necessarily produces friction, as they often do not translate meaningfully across contexts. How should the category "Hispanic" or "Latino" be interpreted, for instance, outside the Americas, particularly in European contexts? And how can minoritized or marginalized communities be represented in other national contexts if they frequently fall outside of the classificatory schema established by this classificatory grid?

For countries that do not collect racial or ethnic statistics—or that deliberately reject such practices due to historical and political legacies—transnational standardization poses particular challenges. In contexts where the use of the term "race" is legally restricted, demographically misaligned, or normatively discredited, these templates create epistemic tensions and political ambivalence. Researchers working within such environments often justify the adoption of racial and ethnic categories by invoking the need for international comparability—especially with reference to the dominance of US-centered scientific discourse and its influence on publication criteria, funding structures, and regulatory expectations. Yet rather than just harmonizing classification systems, the global dissemination of such standards exposes enduring power asymmetries in the organization, validation, and governance of scientific knowledge.

The contributions in this section thus reveal how dominant classifications are locally adapted, resisted, or tacitly maintained. Racial and ethnic categories influence research not only through explicit labels but also through institutional procedures, data requirements, and funding conditions that implicitly assume the existence of biologically meaningful human groups labeled as "race" or "ethnicity." These classificatory systems are not simply imposed from above; rather, they take shape at the intersection of global regimes of standardization and national histories, disciplinary norms, and sociopolitical conditions. Far from being just tools, such standards are contested, political instruments

that actively configure how human difference is made legible, governable, and actionable within scientific and institutional practice.

Anna Bredström and Shai Mulinari explore this coconstructive nature of classification in their analysis of the tensions and contradictions in the use of racial and ethnic categories in clinical research in Sweden. Drawing on interviews with actors involved in pharmaceutical research and regulation, they reveal how race remains embedded in everyday research practices, despite being officially delegitimized as scientifically invalid and morally inappropriate. Their chapter illuminates how international racial classifications imported through international regulatory standards produce friction and ambivalence within national contexts, generating silences, ambivalences, and normative tensions while simultaneously reinforcing forms of biological essentialism.

The chapter by Nils Ellebrecht examines the epistemic and practical conditions under which racial classifications are taken up by medical researchers in Germany. In line with Bredströms and Mulinari's analysis, his contribution reveals how the category of race persists as a tacit classificatory logic within research cultures that self-identify as postracial but are shaped by US standards. Ellebrecht illustrates how ethnicity and race often converge, how processes of ethnicization contribute to the biologization of difference, and how imaginaries of scientific neutrality and cultural homogeneity serve to mask these dynamics. He also shows that German research teams without international partners also employ race classifications to enhance the compatibility of their data in global scientific discourse, presenting local samples as representative of a "Caucasian" or "European" population.

In their contribution, Trudi Buck and Yulia Egorova investigate the afterlives of colonial classification systems in biological anthropology in the UK, as reflected in anthropological collections as well as current textbooks and teaching practices. The chapter begins with a notable absence: the lack of South Asian individuals in forensic anthropological databases. While this absence can be explained in many ways, the authors argue that it is primarily due to the classification of Indian skeletons as either "Caucasoid" or "Pacific Islander" according to the racial classification of the time. As a result, contemporary techniques for estimating anatomical ancestry may exclude unrepresented variability and misidentify remains. The authors also show how this legacy generates confusion and discomfort in forensic teaching contexts, especially for students of South Asian descent. Their contribution underscores the productive force of the absences and gaps in classificatory practices by highlighting how what is missing exerts epistemic and affective effects.

In summary, the contributions in this section show that the use of standards as a postracial classificatory tactic is not a straightforward transfer of heuristic models, but a process shaped by national histories, institutional frameworks, and disciplinary conventions. Frictions emerge not only through semantic mismatches, but also through deeper epistemic tensions—particularly when classifications according to race are officially disavowed but continue to structure research practices. These tensions expose the classificatory force of standards: not only in organizing data, but in producing subject positions.

Postracial Performative Identifications and Subjectifications

In this final section, our focus shifts from the emergence and circulation of classificatory systems to their performative effects—how, once implemented, categories take on a life of their own, shaping perceptions, social positions, and modes of governance. Scientific techniques such as DNA analysis, phenotyping, and ancestry estimation no longer serve merely to describe human variation; rather, they actively produce new kinds of subjects. These practices contribute to the redefinition of group identities and the attribution of biological or visual markers as defining traits—operating within frameworks shaped by sociotechnical conditions, political agendas, and historical legacies.

The chapters in this section explore how postracial classificatory logics are enacted, visualized, and made actionable in applied scientific settings. They examine how sampling and labeling strategies, embedded in biotechnological infrastructures, mediate between scientific categories and lived identities—informing institutional procedures as well as public imaginaries. Across these contributions, the effects of classification become tangible: influencing who is seen, how they are understood, and under what terms they are rendered visible, knowable, or vulnerable. What unites the studies is their shared attention to the entanglement of knowledge production and subject formation—to how scientific classifications do not merely represent but help constitute the subjects they claim to describe.

The section begins with Claude-Olivier Doron's exploration of European-identitarian online communities' appropriation of population genetics to produce alternative epistemologies of race, ethnicity, and ancestry. Extensively analyzing forums, blogs, and participatory genome projects, Doron shows how these communities closely engage and selectively adapt genetic studies to strategically assemble "counterknowledge" that legitimates older racial hierarchies and essentialist notions of European identity. Doron's contribution reveals how epistemic ambivalences and new visualization tools for representing genetic data are enrolled to create the self-identification, community-building, and political boundary-making practices of supremacist whiteness. His analysis of the "social life" of European DNA demonstrates that even the most technologically sophisticated technologies remain entangled with racial and racist typifications that hark back to the early days of race science.

How typologies and past stereotyping affect contemporary human genetics research is examined by Veronika Lipphardt and Mihai Surdu in their analysis of methodologies and representational practices, focusing on studies involving Roma people. Their study scrutinizes the construction of genetic distances and genetic isolation in DNA research on Roma, drawing on a huge dataset of several hundred genetic studies spanning the last one hundred years. By interrogating the interconnections between selective sampling strategies, population labeling, and the use of visualizations, they examine how these practices contribute to constructing truth claims and perpetuating the portrayal of Roma as a supposedly genetically homogeneous and distinct group. Their analysis underscores how these techniques obscure the complexity and diversity of Roma and align with longstanding racializing narratives in Europe.

A quite similar dynamic is examined by Aaro Tupasela and Heta Tarkkala in their study of how Finnish people are represented in human genetics research as an isolated

and homogeneous population. Their study examines the supposed uniqueness of the Finnish population, the visual representations that support this narrative, and the population history that has been constructed. Through three analytical perspectives, the authors demonstrate how interpretations are profoundly shaped by the selective choice of reference populations and show how the conceptual flexibility of the "population isolate" concept allows researchers to simultaneously assert distinctiveness while situating Finnish genetics in comparative frameworks with other populations.

Another paradigmatic case of the intertwining of specific historical and social contexts is analyzed by Mahendra Shahare in his critical ethnography, documentary, and interview analysis of the GenomeIndia Project. This national initiative, which aims to sequence the genomes of 10,000 individuals and promises advances in precision medicine and genomic sovereignty, operates with an entanglement of aspects of genomics, caste, and postcolonial nationalism. Shahare analyzes how the project draws on colonial classificatory schemes and how it depoliticizes caste and ethnic identities by embedding them in biological frameworks. The chapter demonstrates how the contemporary GenomeIndia project remains deeply entangled with historical imaginaries of difference and nationalist visions of sameness.

Taken together, the contributions to this volume provide a window onto the range of logics and practices that are currently in use around the globe, especially outside the US context, to navigate the problem of race as it continues to haunt biological classifications of human beings long after the purported demise. Its multiple case studies analytically reveal the dynamics of these postracial racializations—that is to say, of classificatory practices that persist or reconfigure racial logics in contexts where the explicit use of the concept of race is rejected. The contributions illustrate that the effects of these classifications extend well beyond semantic substitution; they are materialized in institutional practices, policy instruments, visual technologies, and epistemic infrastructures. Rather than appearing as residual or outdated remnants, human classification systems that use categories of race and ethnicity and their many proxies continue to be central to scientific inquiry and the ordering of societies. They play a key role not only in the reproduction of social inequalities, but also in shaping frameworks for antidiscrimination and inclusion.

This volume neither posits a linear trajectory of scientific progress beyond race, nor does it suggest a seamless continuity of older racial regimes. It also does not assume a unified logic underlying today's classificatory systems. Instead, it highlights the multiplicity of tactics through which postracial classifications are enacted—ranging from the rebranding of established categories and the reinvention of classificatory labels to the global standardization of classificatory schemes and the emergence of new forms of biosocial subjectivity. Each chapter situates classification within its specific historical, institutional, and epistemic coordinates, showing how classificatory logics are adapted, resisted, or reformulated across different contexts. Together, the studies reveal both the resilience and the flexibility of racialized reasoning within contemporary scientific practice.

Rather than resting on the widely accepted—but increasingly depoliticized—claim that race is socially constructed, the volume calls for a more profound analytical shift. It asks how classificatory regimes operate as technologies of power, recognition, and inequality; how they become embedded in infrastructures, circulate through transnational

scientific networks, and shape political imaginaries and material consequences. In doing so, the volume invites a rethinking of the epistemological foundations of classification itself—one that not only critiques the historical entanglements of race and science, but that also interrogates the productive, normative, and political effects of classificatory practices in the present. Such a shift is necessary if we are to understand, contest, and ultimately reconfigure the classificatory regimes that continue to structure our biological and social worlds.

References

Auton, Adam, Lisa D. Brooks, Richard M. Durbin, et al. 2015. "A global reference for human genetic variation." *Nature* 526 (7571): 68–74. doi: 10.1038/nature15393.

Barkan, Elazar. 1992. *The Retreat of Scientific Racism. Changing Concepts of Race in Britain and the United States Between the World Wars*. New York: Cambridge University Press.

Bartram, Isabelle, Tino Plümecke, and Susanne Schultz. 2022. "Genetic racial profiling: Extended DNA analyses as technologies of discrimination." *Science & Technology Studies* 35 (3): 44–69.

Benjamin, Ruha. 2009. "A lab of their own: Genomic sovereignty as postcolonial science policy." *Policy and Society* 28 (4): 341–355. doi: 10.1016/j.polsoc.2009.09.007.

Bliss, Catherine. 2012. *Race Decoded. The Genomic Fight for Social Justice.* Stanford, CA: Stanford University Press.

Bowker, Geoffrey C., and Susan Leigh Star. 2000. *Sorting Things Out. Classification and Its Consequences*. Cambridge, MA: MIT Press.

Cavalli-Sforza, Luigi Luca. 2001. *Genes, Peoples and Languages*. London: Penguin.

Darwin, Charles. 1874. *The Descent of Man, and Selection in Relation to Sex.* 2d ed. London: John Murray.

Duster, Troy. 2015. "A post-genomic surprise. The molecular reinscription of race in science, law and medicine." *The British Journal of Sociology* 66 (1): 1–27. doi: 10.1111/1468-4446.12118.

Epstein, Steven. 2007. *Inclusion. The Politics of Difference in Medical Research*. Chicago: Univ. of Chicago Press.

Foucault, Michel. 1972. *Archaeology of Knowledge and The Discourse on Language*. New York: Pantheon Books. Foucault, Michel. 1980. *Power/Knowledge: Selected Interviews and Other Writings* 1972–1977. Edited by Colin Gordon. New York: Pantheon Books.

Foucault, Michel. 2005, fr. 1966. The Order of Things. An Archaeology of the Human Sciences. London: Routledge.

Fujimura, Joan H., and Ramya Rajagopalan. 2011. "Different differences: The use of 'genetic ancestry' versus race in biomedical human genetic research." *Social Studies of Science* 41 (1): 5–30.

Gannett, Lisa. 2001. "Racism and human genome diversity research: The ethical limits of 'population thinking.'" *Philosophy of Science* 68 (3): S479–S492.

Gilroy, Paul. 2000. *Against Race. Imagining Political Culture Beyond the Color Line.* Cambridge, Mass.: Harvard University Press.

Goldberg, David Theo. 2009. *The Threat of Race. Reflections on Racial Neoliberalism*. Malden MA: Wiley-Blackwell.

Goldberg, David Theo. 2015. *Are We all Postracial Yet?* Cambridge: Polity Press.

Goldberg, David Theo, and Philomena Essed. 2002. "Introduction: From racial demarcations to multiple identifications." In *Race Critical Theories. Text and Context*. Edited by Philomena Essed and David Theo Goldberg, Malden, Mass.: Blackwell, 1–14.

Hacking, Ian. 1999. *The Social Construction of What?* Cambridge, Mass: Harvard Univ. Press.

Hacking, Ian. 2002. *Historical Ontology*. Cambridge, Mass: Harvard University Press.

Hall, Stuart. 1986. "Gramsci's relevance for the study of race and ethnicity." *Journal of Communication Inquiry* 10 (2): 5–27.

Haraway, Donna. 1989. *Primate Visions. Gender, Race, and Nature in the World of Modern Science*. New York, NY: Routledge.

Harding, Sandra. 1991. *Whose Science? Whose Knowledge? Thinking from Women's Lives*. Ithaca, NY: Cornell Univ. Press.

Hawthorne, Camilla A. 2022. *Contesting Race and Citizenship. Youth Politics in the Black Mediterranean*. Ithaca New York: Cornell University Press.

Hawthorne, Camilla. 2024. "Toward a relational theorization of racisms." *Ethnic and Racial Studies* 47 (8): 1620–1628. doi: 10.1080/01419870.2023.2227680.

Huxley, Julian, and Alfred C. Haddon. 1935. *We Europeans: A Survey of "Racial" Problems*. London: J. Cape.

Lipphardt, Veronika. 2012. "Isolates and crosses in human population genetics; or, a contextualization of German race science." *Current Anthropology* 53 (S5): S69–S82. doi: 10.1086/662574.

Lipphardt, Veronika, Mihai Surdu, Nils Ellebrecht, Peter Pfaffelhuber, Matthias Wienroth, Gudrun A. Rappold. 2021. "Europe's Roma people are vulnerable to poor practice in genetics." *Nature* 599 (7885): 368–371. doi: 10.1038/d41586-021-03416-3.

M'charek, Amade, Katharina Schramm, and David Skinner. 2014. "Topologies of race: Doing territory, population and identity in Europe." *Science, Technology & Human Values* 39 (4): 468–487.

M'charek, Amade, Victor Toom, and Lisette Jong. 2020. "The trouble with race in forensic identification." Science, Technology and Human Values 27 (1): 804–828. doi: 10.1177/0162243919899467.

M'charek, Amade, and Irene van Oorschot. 2023. "The politics of face and the trouble with race: Exploring relations at the interface between the individual and the collective in forensic practice." *Social Studies of Science*, 53 (6): 813–825. doi: 10.1177/03063127231211817.

Morning, Ann, and Marcello Maneri. 2022. *An Ugly Word. Rethinking Race in Italy and the United States*. Chicago: Russell Sage Foundation.

Mosse, George L. 2020. *Toward the Final Solution. A History of European Racism*. Madison, Wisconsin: The University of Wisconsin Press, orig. 1978.

Nelson, Alondra. 2016. *The Social Life of DNA*. Boston, MA: Beacon.

Omi, Michael, and Howard Winant. 2015. *Racial Formation in the United States. From the 1960s to the 1980s*. 3rd ed., orig. 1986. New York: Routledge.

Plümecke, Tino. 2010. "Die neuen Differenzen der Lebenswissenschaften. 'Rasse', Genetik und die ungenutzten Potentiale der Soziologie." In: *Ethnowissen. Soziologische Bei-*

träge zu ethnischer Differenzierung und Migration, edited by Marion Müller and Darius Zifonun, 423–450. Wiesbaden: VS.

Plümecke, Tino. 2013. *Rasse in der Ära der Genetik. Die Ordnung des Menschen in den Lebenswissenschaften*. Bielefeld: Transcript.

Proctor, Robert N. 1988. *Racial Hygiene. Medicine Under the Nazis*. Cambridge, MA: Harvard University Press.

Rattansi, Ali. 2007. *Racism. A Very Short Introduction*. Oxford: Oxford University Press.

Reardon, Jenny. 2005. *Race to the Finish. Identity and Governance in an Age of Genomics*. Princeton, NJ: Princeton University Press.

Reardon, Jenny. 2012. "The democratic, anti-racist genome? Technoscience at the limits of liberalism." *Science as Culture* 21 (1): 25–47. doi: 10.1080/09505431.2011.565322.

Reardon, Jenny. 2017. The Postgenomic Condition. Ethics, Justice, and Knowledge after the Genome. Chicago: The University of Chicago Press.

Reich, David. 2018. *Who We Are and How We got here. Ancient DNA and the New Science of the Human Past*. New York, NY: Pantheon Books.

Roberts, Dorothy E. 2011. *Fatal Invention. How Science, Politics, and Big Business Re-create Race in the Twenty-First Century*. New York: New Press.

Smedley, Audrey, and Brian D. Smedley. 2005. "Race as biology is fiction, racism as a social problem is real: Anthropological and historical perspectives on the social construction of race." American Psychologist 60 (1): 16–26.

Stepan, Nancy. 1982. *The Idea of Race in Science*. Great Britain, 1800–1960. London: Macmillan.

Stern, Alexandra Minna. 2016. *Eugenic Nation. Faults and Frontiers of Better Breeding in Modern America*. 2nd ed. Oakland, California: University of California Press.