

# INTRODUCTION

## Ideas in Motion

### Making Sense of Identity Politics and the New Genetics<sup>1</sup>

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Contemporary politics of identity are often marked by a high level of emotional and political commitment on the part of the actors involved, and they remain a site of continuous contestation. Not only are they influenced by various historical ‘presences’, to borrow a phrase from Stuart Hall (1990), or by their respective social, economic or religious intersections, they are also inspired by developments in the life sciences. The sequencing of the human genome has been a decisive step in this direction, propelling old nature/nurture debates into a new terrain. How genetic, environmental and social factors interact in the production of life, in people’s susceptibility to certain diseases or, in a more general sense, in the making of persons and relations has increasingly become an issue of debate. Neither genetic determinism nor social constructivism alone can sufficiently address such questions (cf. Duster 2003a; Hacking 2005; Hartigan, Jr. 2008; Pálsson 2007). In biological science, authors such as Richard Lewontin (1983) or Susan Oyama (2000) have for quite some time argued against the limitations of a dichotomized understanding of nature against nurture and have consequently favoured a more encompassing understanding of developmental systems instead. In Oyama’s words: ‘Inheritance can be identified with “nature” only if it embraces all contributors to that nature, and nature does not reside in genes or anywhere else until it emerges in the phenotype-in-transition. Nature is thus not properly contrasted with nurture in the first place; it is the product of a continual process of nurture’ (2000: 71–72). This understanding of processuality and mutuality has also been reflected in recent social science research on the life sciences and the construction of knowledge therein (see Bauer and Wahlberg 2009; Franklin 2007; Lock 2005; Lock and Nguyen 2010). Epigenetics, that is, the study of the complex and variable conditions for gene-expression and trait-inheritance (see Jablonka and Lamb 2005), has been a recent buzzword that has also been associated with the possibility of fruitful exchanges and cooperation between the life sciences, social sciences and humanities (see Weigel 2002), a promise that has not yet been fully explored in practice.<sup>2</sup>

## 2 Identity Politics and the New Genetics

Nevertheless, a transdisciplinary awareness is important. The new genetics is part of changes that have a direct bearing on the notions of self and relatedness as well as on the conceptualization of risk and responsibility. On another level, genetic knowledge is closely interlinked with group taxonomies and the establishment as well as extension of boundaries. It may therefore have profound (and perhaps unexpected) impacts on existing categories of belonging and difference – pushing identity politics towards the ‘nano-level’ (Gilroy 2000). With regard to the highly charged concepts of race, ethnicity and national belonging, this has two dimensions. On the one hand, genetic knowledge has been evoked in order to refute the biological basis of social categories. Genetics, so it was widely claimed after the sequencing of the human genome, may serve as definitive proof that diversity within any chosen group was at least as important as variations between groups (see AAA online project: ‘Race: are we so different?’, <http://www.understandingrace.org/home.html>).<sup>3</sup> Hence, it seems that racial science and racisms rooted in scientific or pseudoscientific biological determinism have finally been worn out. And yet race talk as well as ethnicity talk have gone through a remarkable renaissance in the past few years – be it in the field of medicine (with the design of ‘race-specific’ pharmaceutical products), forensics (with racialized genetic profiling), population genetics (equating groups, territory and DNA markers) or the recent developments in popular genealogies, where genetic ancestry testing has become fashionable. Some of the theoretical assumptions as well as of the practical applications of the new genetics (and of DNA-testing in particular) thus reinstate racial science, albeit on a different scale, as the equation of phenotype and character has given way to the analysis of ‘junk-DNA’, single nucleotide polymorphisms (SNPs) and haplogroups, which are not necessarily connected to specific genes (see Abu El-Haj 2004, 2007).

In the wake of these developments, our book explores new social and conceptual spaces unfolding between genetic research and technologies on the one hand, and the social and political construction of identities on the other across a range of different settings. It considers how in a genomic age, science and the politics of race, ethnicity and nation facilitate (or at times contradict) each other. In doing so, it suggests the limits of thinking in terms either of science influencing politics or politics influencing science, but rather points to the coproduction of both (Jasanoff 2004; Latour 1987). In this we can chart the emergence of a novel and diverse ‘biopolitics’ that has global, national and local dimensions; genetics becomes part of a discussion about globalization and change in specific localized regimes of race-thinking.

Consequently, we ask about the ways in which existing social categories are both maintained as well as transformed at the interface of science and politics. Our approach recognizes that any contemporary exploration of genetics and race, ethnicity and national identity must extend to their diversified and variable expressions in the idioms of kinship and/or citizenship (see the contributions by Nash, Schramm, Vaisman and Wade to this volume). To explore change we must locate genetics alongside adjacent contemporary trends, most notably the preoccupation with origins and personal discovery (see especially the contributions by Nash, Palmié, Schramm and Sommer), but also the ongoing use of racial and ethnic categories in

social policy (see the contributions by Skinner and Vaisman) and medical research (see the contribution by Smart et al.). In order to examine the nuances of these processes, we take an actor-centred approach, looking at various scenarios where genetics becomes the stuff of identity and identity politics. The concept of identity politics is thereby not taken for granted, but is rather unpacked on various levels, i.e., the formation of classifications (Skinner, Smart et al. and Wade) and gene/allogical knowledge (Nash, Palmié), the transformations of race/kinship congruity (Wade), the application and negotiation of social categories in forensics (Skinner, Vaisman), the historical formation of political and cultural identities and their re/location in the realm of the biological (Sommer), the congruence of popular culture, consumption and new genetic technologies (Nash, Schramm and Sommer) as well as the implicit and explicit gendering of gene/alogies (Nash, Schramm).

In doing this, however, we acknowledge that, whatever the importance of ‘identity’ as a category of practice used by actors, the term has become stretched and overworked to such an extent that some theorists suggest it has little analytical worth (Anthias 2002; Brubaker and Cooper 2000; Comaroff and Comaroff 2009; Handler 1994). Certainly, the concept of identity allows us to talk of different dimensions of sameness and difference, individuality, community and solidarity all at once, but, in doing so, it can obscure the variety of processes grouped under the one umbrella term: these include external categorizations, subjective experiences and accounts of social location.

New genetics clearly connects with a growing preoccupation with ethnicity as a personalized process of active identification and a growing interest in the complexity of origins and ancestry, but this is only part of the story. DNA analysis, often perceived as a straightforward and infallible means of identification, may not only confirm but may also contradict an individual’s previous self-ascription (see Vaisman, this volume). In some cases, this can lead to crisis, while in other cases, the DNA-based ‘evidence’ may be ignored and other means of determining belonging may be privileged (cf. Prainsack and Hashiloni-Dolev 2009; see also Schramm, this volume). Whatever the case may be, these processes never occur outside the political realm, but are rather deeply implicated in it. This becomes more evident if we consider that DNA identification is not just about the self, but always encompasses the external observation and organization of people in groups. A discussion about identity also quickly becomes one about the practices of categorizing people and categorizing genes. Official, standardized systems of racial classification and data collection are integral to public life in many locales. As the contributions by Palmié, Skinner and Wade to this volume demonstrate, the new genetics connects with and feeds off this in a number of significant ways. Moreover, categorizations can often be contested and contradictory (see especially Nash, Schramm and Sommer, this volume). The attempt to reduce race and ethnicity to statistically constructed genetic markers not only ignores the diversified histories of racial formation in various local settings but also erases other differences between group members such as class position and gender.

Thus, recent changes involve both a retooled politics of racialized identity *and* a reconfigured politics of racializing knowledge. This requires an appreciation of

the changing conditions of production and consumption of expertise about race, ethnicity and racism. We must ask how, when and why issues are discussed in terms of racial and ethnic differences, and who claims expertise on race and ethnicity. An analysis of the changing methods and technologies for the management of racialized data is also important.

Discussion of race and the new genetics has tended to focus on the ways in which biological accounts of sameness and difference may or may not trump social accounts. But, as the chapters in this book illustrate, biological accounts now and in the future will interact with but not necessarily overwhelm other ways of making sense of difference and similarity. To set the biological against the social may downplay the novelty of the current situation. The molecular gaze has enabled the pursuit of new paths for the (re)formation of boundaries and the classification of groups and individuals. This is not, however, the institutional, intellectual or political triumph of biological determinism or even of biological essentialism. Genetic classifications have an ambivalent position in contemporary processes of political institutionalization and subject-making. Conceptions of racial and ethnic divisions have always involved equivocations around determinism/plasticity, difference/sameness and nature/culture. Yet these dualisms and the moves between them take on a distinctive form and particular importance in a postgenomic world. One element is the shifting combinations of biology/society or nature/culture at play. But there are also signs that the distinction between the biological and the social is beginning to lose its analytical stability and political force in discussions of race, ethnicity and racism.

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We would like to illustrate these dynamics (and the complications arising out of them) by taking a closer look at a setting where racial classifications have always played an important, though highly ambivalent, role in public life. Brazil is one of the most unequal societies in Latin America. It is also often claimed that it has more people of African ancestry than any other country outside of Africa. The Brazilian population is largely descended from African slaves (slavery was only abolished in 1888), indigenous Amerindians, European colonizers and later European and Asian migrants. Brazil has a national story (for both internal and external consumption) that celebrates admixture in its population as well as its cultural makeup. There is a history of racial classification in Brazil – both folk and official – based on variations in skin tone. But between *branco* and *negro* lie a complex set of self-referencing categories to encompass admixture. Classification into these categories varies by region and situation. In contrast to, for example, the U.S.A., where studies suggest that a significant number of self-identified ‘whites’ actually have African heritage, ‘whites’ in Brazil celebrate their own and the nation’s mixed heritage (see, for example, Santos 2009). However, the portrayal of Brazil as a harmonious ‘racial democracy’ has been challenged by academics, politicians and campaigners highlighting the impact of racism and understanding inequalities in racialized terms. These actors do not view the celebration of ‘mixture’ as an adequate counter to racism in Brazil, instead

arguing that the first step to address race inequality is to recognize the reality of race difference (see the contributions in Hanchard 1999).

The reforming populist Lula government that ruled Brazil from 2002 to 2010 was associated with a newly assurgent Black Movement. It established a Special Secretariat for Policies for the Promotion Racial Equality and set out to address racism and racial disadvantage via affirmative action – notably by encouraging universities to reserve quota places for black students. This strategy was dependent on a biracial approach in which, at points, people not normally deemed *branco* or *negro* were either ignored or subsumed into black and white categories. This political and policy shift has prompted what Peter Fry (2009b) terms a ‘taxonomic war’, with both social and natural scientists participating in a debate about the legitimacy of the categories and systems of categorization on which schemes for affirmative action depend. Social scientists are amongst both the most fervent supporters as well as the most impassioned opponents of the use of racial categories in this process. Significantly, those concerned about the fairness, practicality and unintended negative consequences of racial quotas have also utilized evidence from population genetics that highlights the admixture of the Brazilian population and suggests that skin colour in a country such as Brazil is a weak indicator of genetic ancestry.<sup>4</sup> Here, genetics is mobilized, as one vocal opponent of racial quotas in university entrance (Manolo Florentino, Head of the Social History Department at the Federal University of Rio de Janeiro) puts it, to ‘show race is a failed concept in Brazil’ (Salek 2007).

The reliability and validity of racial categories and the processes used to place people into quota categories have also become a pressure point in Brazilian debates over affirmative action. Controversially, the University of Brasilia appointed a commission made up of a sociologist, an anthropologist, a student and representatives of the Black Movement to judge who should benefit from quotas using photographs and (where necessary) other ‘cultural’ evidence (Santos and Maio 2004).<sup>5</sup> More typically, however, ‘self-identification’ has been utilized as the key basis of categorization. Opponents focus on the potential inconsistencies and, tellingly, on occasion utilize genetic evidence as part of this critique. Early in the process, in 2003 José Roberto Pinto de Góes, Professor of History at the University of the State of Rio de Janeiro (UERJ), encouraged all university applicants to self-identify as black or brown:

If you are applying for UERJ’s next entrance examination, say you are black or brown ... You won’t be lying. You might not know, but you are half African too. We are all Africa’s breed, whatever the colour of our skin. Only those people who do not know or do not accept our history ignore this fact. Say you are black; say you are brown, for they want to steal your soul ...  
(Quoted in Tavolaro 2008: 150)

Supporters of quotas argue that genetics should not be used to undermine antidiscrimination policies: it is social divisions, not genetic similarities that are the key. David dos Santos, a priest who coordinates a scheme to prepare poor Afro-Brazilians for higher education, is quoted by the BBC as saying: ‘I’ve never seen a

policeman asking for a genetic ID before stopping someone. In Brazil, discrimination is based on appearance, not on genes ...' (Salek 2007).

For opponents, racial quotas depend on forms of rigid, exclusive race categorization inappropriately transplanted from North to South America. This is in some ways a continuation of an older argument put forcibly by Pierre Bourdieu and Loïc Wacquant (1999), who characterized the imposition of U.S. categories into Brazilian society as cultural imperialism.<sup>6</sup> But what is striking is the way in which this current debate has two registers: one focusing on variations between the Brazilian and U.S. social and political settings, and the other on variations in the genetic composition of the two populations. This is evident in an 'Open Letter Against Race Laws' published in 2008 and signed by 113 left-wing academics, teachers, lawyers, writers, artists and trade unionists, which argued: 'DNA research allows us to conclude that, in 2000, there were around 28 million Afrodescendants among the 90.6 million Brazilians who declare themselves as "white" and that, amongst the 76.4 million who declare themselves "pardo" or "black", 20% had no African ancestry whatsoever' (Brazilian Black Socialist Movement 2008).

This position, however, is not without its own contradictions. It is worth considering how and why opponents of quotas should choose to utilize genetics alongside legal, political and sociological arguments. Lilla Tavolaro's (2008) analysis of the implementation of affirmative action at the State Universities of Rio de Janeiro and the Federal University of Brasilia is useful here. Tavolaro shows that while the notion that affirmative action and its associated 'race assertive' politics simply discloses and challenges pre-existing race divisions in Brazil is dubious, the same is true of the alternative position that dismisses them as an alien import 'imposed from abroad, but also incompatible with the Brazilian symbolic order and system of racial classification' (2008: 146). As Tavolaro points out, this second position holds to a static view of national and social identity (see Hanchard 2003).<sup>7</sup>

We can extend this argument when considering the rhetorical use of genetics: for all its claims to problematize 'race', science is ultimately used to support an essentialist view of Brazil and Brazilians. From this standpoint Brazil is not just fundamentally different from the U.S.A. in its history and culture but also in its population genetics; in particular, 'white' Brazilians are not like 'white' people in the U.S.A. (Pena 2009). In other words, 'science' reproduces, microbiologically, the very terms around which national racial ideologies revolve, thereby affirming or contesting – but not actually transforming – those terms (Palmié 2007).

Our Brazilian example shows some of the diverse and sometimes surprising ways in which the new genetics is implicated in the contemporary politics of race and racism and of national identity. How can we develop a fuller appreciation and a more general examination of these developments? While complex and varied, there are patterns here. In the sections that follow we make sense of change in terms of ideas in motion. Ideas (and practices) about race, ethnicity, racism and identity – in other words, about belonging and exclusion – travel across time, between locations, between institutional settings, between spheres of expertise, and between experts and the lay public. In transit, these ideas do not remain the same, but are rather reinterpreted

and remade – a process we seek to follow and better understand through our various contributions.

In writing of travelling ideas, we recognize that, strictly speaking, ideas cannot travel on their own but need to be inscribed into objects that can be moved from one context to another without completely changing character. These mobile objects might include written text, a pictorial representation, a technological artefact, a model or a procedure for doing things. Nevertheless, since all objects hold meaning, are attributed with meaning and shape processes of sense-making, we can speak of travelling ideas as a useful shorthand for the processes of transmission, translation and transformation of both identity and genetics that we follow in this book. As the collection of chapters that follow will show, a full exploration of the movement of ideas involves an appreciation of both their immutability and their plasticity, and of both their capacity to change and to be changed by particular contexts (Czarniawska and Joerges 1996; Rottenburg 2009).

### Ideas Travelling through Time

The politics of race and (genetic) science are rarely ever just about the present. The past and the future both loom large, be it in the projections of ‘promising genomics’ (Fortun 2008) that underlie the large DNA-databases that have been set up for medical and legalistic purposes (see Skinner, this volume) or in the ‘backwards-orientedness’ of genetic narratives that seek to deduce ancestral connections and movements from DNA samples (see the contributions by Nash, Schramm and Sommer, this volume). As Sarah E. Chinn has argued, in visions of a geneticized future:

DNA is envisaged as answering a welter of knotted questions about ontology (Who are we?), etiology (Where did we come from?), taxonomy (Where in nature do we fit?), epistemology (How can we know the world?), teleology (What is our purpose?) and broadly speaking eschatology (What will happen to us?). These are heavy burdens for a set of molecules so tiny. (Chinn 2000: 144)

In the decade since Chinn wrote these comments, the discussion of the social and political implications of the new genetics has grown considerably and perhaps has also grown up. It is notable, however, how the sequencing of the human genome prompted both dystopian fears of a future triumph of biological deterministic racial science, through what has previously been termed ‘geneticization’ (Lippman 1991), and utopian hopes that new knowledge would finally end racism. The ensuing discussion of race and science was and is Janus-faced, looking backwards as well as forwards; dystopians fear the return of previously repressed scientific racism (e.g., AG gegen Rassismus in den Lebenswissenschaften 2009; Duster 2003b), whereas utopians in science (notably the founder of Celera Genomics Craig Venter, who co-announced the mapping of the human genome in 2000 – see, for example, *The Guardian*, 12 February 2001: 6) and social science (Gilroy 2000) seem nostalgic for a

postwar model predicated on the hope or expectation that racism could be ended by expert reason trumping lay ignorance:

It is impossible to deny that we are living through a profound transformation in the way that the idea of ‘race’ is understood and acted upon. Underlying it there is another, possibly deeper problem that arises from the changing mechanisms that govern how racial differences are seen, how they appear to us and prompt specific identities. Together these historic conditions have disrupted the observance of ‘race’ and created a crisis of raciology, the lore that brings the virtual realities of ‘race’ to dismal and destructive life. (Gilroy 2000: 11)

In many ways Gilroy’s predictions still ring true, but there is little sign of the new genomic knowledge contributing to the building of a postracial world (or what Gilroy terms ‘planetary humanism’). While genomics contains both messages of human similarity and human difference, the past decade has seen a growing preoccupation with difference, i.e., genetic variations between people who are grouped in populations alongside historically loaded and contested categories of race and/or ethnicity (Koenig, Lee and Richardson 2008: Introduction). These developments have made both the dystopian and utopian positions less plausible, revealing the weaknesses in their assumptions about the thrust of scientific work and the relationships between that work and the public sphere (Skinner 2006). Nevertheless, something new and significant is happening, something that cannot be fully grasped only by referring back to the history of racism and anti-racism (even though we agree that it remains important to acknowledge the past careers of the terms that we are dealing with).

There are three dimensions to the novelty of the current situation. First, genomics is part of shifts in understandings of what it means to be human: a number of commentators have shown how genomics raises new questions about self, difference and belonging, the distinction between humans and animals, male and female, and the meanings of ‘natural ties’ (Franklin 2007; Haraway 1997; Karkazis 2008; Lindee, Goodman and Heath 2003; Marks 2002; Valentine 2007). New genetic technologies change kinship constellations, ‘cultures of relatedness’ and the genealogical imagination (Carsten 2000; Finkler 2000; Franklin and McKinnon 2001; Rapp 2000; Strathern 1992; Wade 2007). The second dimension of change is the way in which biology – as an institutional and epistemic practice as well as in terms of the objects and products of that science – takes on a particular prominence in contemporary public life. Biology (and the life sciences in general) increasingly becomes an object of ethical debate, economics and political dispute to the extent that these are reframed as bioethics (Almond and Parker 2003; Brodwin 2005; Lösch 2001), biocapital (Fortun 2001; Sunder Rajan 2006), biosociality (Rabinow 1999; Gibbon and Novas 2008) and biological or genetic citizenship (Heath, Rapp and Taussig 2004; Kerr 2003; Rose and Novas 2005; Taussig 2009). Last but by no means least, genomics is a key element of what Franklin terms ‘the denaturalisation of biology from within’ (2001: 303). Science becomes about remaking or creating



life, requiring a rethinking of what biology is and defamiliarizing ‘the biological’ (ibid.; cf. Franklin and Lock 2003).

These broader developments are the context in which discussions of race, ethnicity, citizenship and genetics should be placed. The tropes of race and ethnicity represent a familiar organizing principle by which new biological data can be classified and thereby made sense of. But there is much here to make us reconsider old certainties about race, racism, ethnicity and identity politics in a wider sense. As charted, for example, in the contributions by Nash, Palmié, Schramm and Sommer in this volume, biological knowledge is increasingly presented as providing answers to questions of origins and ancestry through genetic ancestry testing and population genetics. Consumers can purchase a range of tests that pretend to explore connections via ‘genetic ancestry’, such as the the Native American Test, the Cohanim Modal Haplotype Test, the Hindu Test and the Genghis Khan Test (Greely 2008). This information is also provided as an add-on to commercial health testing services such as 23andMe or deCODEme (cf. Lee 2006).

The notion that genetic testing is a ‘truth machine’ (cf. Lynch et al. 2009) that shortcuts the complexity of ancestry and origins is now a familiar element of popular history and genealogy. The interface between biology and history in new genealogies and hence in the determination or contestation of racial and/or ethnic belonging is significant (see Parfitt and Egorova 2006; Sommer 2008). It raises new questions about the mythologizations of biological origins and their relationship with previous forms of identity construction around notions of autochthony, cultural authenticity and heritage – questions that are addressed in this volume by Nash, Palmié, Schramm and Sommer.<sup>8</sup> As the chapters by Vaisman and also to some extent Wade show, this entanglement of biology and history can also affect relationships of belonging on the more intimate scale of the family and its intrinsic connections to national ideas of community, kinship and relatedness.

The commercial services that provide testing for ancestry are closely intertwined with scientific programmes that seek to map (and consequently market) the genetic heritage or genetic diversity of particular locales and groups. The Human Genome Diversity Project, National Geographic and IBM’s Genographic Project, the HapMap project or, most recently, the Human Heredity and Health in Africa Project (H3 Africa) all explore and valorize genetic differences as part of a global account of humanity and an emerging global market in what Sunder Rajan (2006) calls surplus health transformable into biocapital or what Palmié (this volume) terms ‘identity goods’. As John and Jean Comaroff (2009) have recently argued in this realm, ethnicity (and, for that matter, race) gets ‘incorporated’ in a dual manner: as an existential ontological entity (situated in the body) as well as a commercial enterprise (firmly placed in the neoliberal framework of the market economy).

Racialized DNA has also become integral to the practices of the state and other key institutions, and through this has become part of our lives as citizens, patients, litigants, etc. Genetic evidence (notably in forensics and paternity testing) is a common feature of the legal system, criminal justice and immigration control (Lazer 2004). DNA is used to profile the ethnicity of crime suspects (see Skinner,

this volume) and by courts to substantiate social relationships (see Vaisman, this volume).<sup>9</sup> Genetic medicine is also racialized in a number of key ways. This has prompted the latest twist in a longstanding set of debates regarding if, when and how to address racial and ethnic differences in health. Cause celebres such as the licensing of the ‘ethnic drug’ BiDil in the U.S.A. exclusively for African-Americans remain the exception rather than the rule. Jonathan Kahn (2004, 2008) and others are, however, right to alert us to the commercial imperatives driving these developments and the synergies between those imperatives and contemporary identity politics.

Taken together, genetic genealogy, population genetics, the focus on human genetic diversity, racialized biomedicine, pharmacogenetics and forensics point to a new context in which genetic knowledge and practice are part of (but do not shape on their own) novel forms of politics around race, ethnicity and racism. Biological knowledge and biological material become the stuff of identity formation and an object of struggle, as well as a resource in public debate in ways which can confound previous assumptions and faultlines. In the politics of identification, biological knowledge is both resisted and taken up, accepted and not accepted. However, such acceptance or rejection does not happen in a vacuum but needs to be authorized to ‘stick’. Authorization (or successful mobilization) is the last step in a translation process where a novel idea is taken up in a particular context and translated into a new, after a while institutionalized practice that eventually appears to be the common-sense way of doing things (Callon 1986). Each context is characterized by power relations, unequal distributions of economic resources, material infrastructures, normative frames and webs of beliefs which all together shape the process of mobilizing actors for the new practice, i.e., they shape the authorization process. As we have indicated in this section, there are continuities as well as disruptions in the ways in which these authorizations work over time. In the following section, we consider how these mechanisms might vary according to different locations.

### **Ideas Travelling between Locations**

As the Brazilian case illustrates, the new biopolitics has global (and globalizing) features but plays out differently in different locations. The notion of travelling ideas helps us to appreciate the uneven but interconnected spatial impact of new developments; these currents are by no means uniform or flow in a singular direction. With case studies covering Latin America (Wade, Vaisman), Africa (Schramm), Europe, i.e., Ireland (Nash), the U.K. (Skinner, Wade) and Switzerland (Sommer), as well as the U.S.A. (Palmié, Schramm) and the global scientific community (Smart et al.), our book covers a wide regional scope and has a strong comparative dimension. The various chapters show the importance of placing the practices of science, policy and identity in different social settings and they also indicate how in those settings we can see the interplay of local, national and global dynamics.

Significant here are variations at regional (the distinction between North and South America highlighted above is an obvious example) as well as national levels. These variations are both in terms of narratives of national belonging and of policy

conventions of classification. They are not just discursive or organizational but pertain to the ways in which racism operates and race and ethnicity are lived across social and historical settings. A recurring preoccupation of the chapters in this book is with the ways in which genetic practice comes up against, challenges or is influenced by national regimes of truth about identity and belonging, and state-level processes of official classifications of difference. Crucial here are questions about the relationship between classification, power and governance, which are not only important to the development of racism and oppositional consciousness but also to ideas about the national body in its institutional and ideological form.

An appreciation of differential contextual valuation of genomic data leads us to refine any simplistic assumptions about the ‘impacts’ of the new life sciences. This is not merely a celebration of the complexity of change but also reminds us of the relationship between different levels of analysis. The developments that we observe in the field of the new genetics are not just about (changing) relationships between people (and other species and things) but also about changing relationships between places. These are often due to an unequal circulation of scientific knowledge and models of governmentality as well as to the particulars of local translations of circulating ideas.

Given the global influence of U.S. natural and social science and the U.S.A.’s profile as a thoroughly racialized social formation (see Omi and Winant 1994), it is perhaps unsurprising that the North American experience has become a focus for discussion of the processes whereby race and genomics combine. This has potential drawbacks: for all the merits of work such as that collected in Koenig, Lee and Richardson (2008), it focuses almost exclusively on the U.S.A. in isolation from other settings. The U.S.A. has a distinctive history and politics of racialized identities that cannot be assumed as universal or typical. The approach typified by Koenig, Lee and Richardson not only precludes the analysis of territorial variations but also of the intellectual, commercial and policy influence of the U.S.A. (and the limits of that influence) on other parts of the world. We are not the first to make this point; Rose (2007) and others argue that a preoccupation with U.S.-based case studies and concerns distorts global discussion of race and genomics. But, as the contributions by Wade, Skinner and Sommer in this volume indicate, the non-transferability of the U.S. model should not lead to the smug assumption that race is an American hang-up or that racism is an exclusively American problem.

Instead, our book explores the complex entanglements of local, national and global histories, and we analyse the manifold connections between these levels, as they have shaped specific interfaces of genetics and identity politics. Michael Jackson (2002) rightfully points out that the new genetic technologies do not enter the global scene unmarked, but are rather implicated in existing global patterns of inequality and injustice. Not all people occupy an equal position in the emerging ‘imagined genetic communities’ (Simpson 2000; see also Rotimi 2003), and their involvement in the global ‘risk society’ (Beck 1986) differs accordingly. Drawing on the case of the New Zealand Maori’s perception of (and reaction to) technologies of genetic modification (GM), Jackson demonstrates how epistemological concerns that take

their root in culturally specific understandings of life and genealogy (*whakapapa*) are deeply ingrained in ongoing political struggles.<sup>10</sup> Through discussions of the Human Genome Diversity Project (HGDP), other authors have considered how the relationship between the West and the Rest is played out in the framing of the issue of genetic variation and conflicting claims to know and control bodies and histories (see Cross 2001; Marks 2001; Reardon 2005; Tutton 2004).

The transnational character of genetic practice can be analysed along two lines. First, science and capital are not confined to national borders but operate globally. Moreover, DNA- and tissue-samples are also collected on a worldwide scale and populations are designed (and affected!) accordingly (cf. Lock 2001; M'Charek 2005; Sharp 2000). Secondly, information about genetic technologies circulates globally, be it through the internet or other media sources. In addition, some of the commercial services associated with the new genetics (ancestry testing in particular) operate solely through the internet, connecting groups and people in new ways (see Nash and Schramm, this volume).

Global circulations of DNA technologies are one of the ways in which new genetics and with it new forms of race thinking spread around the world. Arguably, this implies a flattening out of differences in the many ways in which race is conceived in different locations and different contexts. Certainly, there are renewed attempts to standardize across temporal and spatial contexts – albeit in ways that are often actually confounded by local circumstances: as the case of biomedicine illustrates particularly well, the use of race categories in research is a dynamic compromise between local, national and transnational factors. Resilient though they are, local/national systems of classification are changing and the practices of genetics and the controversies that accompany them are part of that change. Out of the tensions new typologies and methods of categorization may well emerge.

### **Ideas Travelling between Institutional Settings**

A full explanation of the connections and disjunctions between different settings in which DNA is collected, stored and interpreted must also appreciate that 'race' and DNA are considered together in a variety of different kinds of institutional arrangements and under different systems of governance. Take, for example, 'the genetic test'. Understandably, much attention has been paid to the testing and storage of genetic material in health and associated medical research. Health is, however, only one route through which the genetic test enters the popular imagination and everyday life. Testing for paternity and testing for ancestry (as part of a genealogical project) and forensic testing have also become increasingly commonplace (see the contributions by Nash, Schramm, Skinner, Sommer and Vaisman, this volume). As Greely (2008) remarks, a single genetic ancestry test can have multiple objectives, including presuming geographic and ethnic origins, finding relatives on the database, checking for links between two people both submitting samples, etc.

There is a technical connection between different tests (they use the same techniques and sometimes the same laboratories). There is another connection in

that the prevalence and status in some spheres (providing very precise information on criminal guilt, paternal ties or, in the case of monogenetic disorders, disease susceptibility) gives credibility to genetic practice in other spheres (such as genetic ancestry testing or ethnic profiling of crime suspects). Yet these are settings where experiences, reality assumptions, epistemologies and the associated identity politics can be quite different and partly contradictory. In some spheres genetic testing has achieved technical stability and scientific status, and has accordingly been blackboxed in routine applications. In other cases genetic testing is carried out at the margins of institutionalized science and still has limited professional or public credibility.

Genetic tests for risks of ill health, to prove rights of settlement and citizenship in migration cases, to confirm family ties and obligations, for retelling a narrative of roots, and to determine criminal guilt or innocence not only differ in terms of scientific validity but also differ in the kind of issues of relatedness and belonging they emphasize. They also take place under different conditions, have different kinds of consequences and rest on different relationships between tester and testee. One key variation is the degree of compulsion (legal, moral or familial) underlying the circumstances of testing. As the chapters by Vaisman and Skinner show, the subject position held by an individual in a given situation where genetic testing is employed may also lead to varying understandings of compulsion. Another axis of variation is the degree to which (and the way in which) the test is subject to professional and legal regulation. Also significant is the extent to which (and the way in which) results are interpreted with differing notions of the relative balance of professional expertise versus lay understanding and autonomy (cf. Gibbon 2007; Leach, Scoones and Wynn 2005; Tutton 2007).

### **Ideas Travelling between Fields of Expertise**

As the discussion of testing above suggests, genomics requires or allows new kinds of expertise and expert practice in identity and identification. There are variations and connections to be considered between different realms of expertise (for example, between biomedicine – forensics – legislation – public policy and administration). A particularly important connection/disjunction (well explored in the contribution by Smart et al.) is that between social science and natural science.

A frequent concern raised by social scientists writing on race and genomics is that their disciplines risk marginalization in the face of the challenge of a reductionist life sciences intent on establishing a pre-eminent expert position on race and ethnicity. But if we consider the (changing) patterns of influence, tension and interplay between the natural and social sciences expressed in recent times, a complex picture emerges. We also find transdisciplinary efforts at establishing a common ground. A striking example for such a shared concern among social scientists and biologists about the use (and possible abuse) of racial categories in human genetics is the Open Letter that appeared in the journal *Genome Biology* in 2008 and was authored by a group of faculty from the humanities, social sciences, life sciences, law and medicine at Stanford University. The letter asks for the establishment of an ‘ethics

of characterizing difference' (Lee et al. 2008), warns against a careless application of ethnic and/or racial labels in biomedical research and, above all, calls for more dialogue between the different fields (for a similar initiative, cf. Caulfield et al. 2009).

However, such multidisciplinary endeavours are the exception rather than the rule. More conventionally, both social scientists and natural scientists frequently seek to deal with conceptual and political dilemmas about race, ethnicity and racism by delegating and deferring to each other. Social scientists often tend to cite natural science as evidence to problematize the race concept and the ideology of racism (Skinner 2007). Natural scientists, on the other hand, have regularly sought to contract out the practical and ethical work of constructing legitimate categories for research to social scientists. Exemplary for this strategy is the so-called ELSI agenda that was founded as a subprogramme of the Human Genome Project and was assigned to investigate the ethical, legal and social issues associated with it (cf. Macilwain 2009: 841).

This is not to say that social and natural scientists necessarily approach problems of race, ethnicity and racism in the same way. Instead, they often operate in two distinct epistemic communities with different rules of dialogue and evidence. Both the natural sciences and the social sciences have 'community standards', but these standards can conflict. For example, natural scientists are likely to worry about the reliability of systems of classification that are too amenable to the variations across time and space, whereas social scientists worry about the validity of delocalized, standardized systems. Of course, we do not intend to 'naturalize' the differences between social and natural sciences, but rather we refer to a few general trends that we have observed in the discussions of race and genomics in the respective fields. Instead of assuming an incommensurability or struggle between the two fields of expertise, we should therefore ask how, when and why they do or do not work together.

Underlying exchanges across the natural and social sciences are ongoing concerns about the distinction between race and ethnicity as 'social' or 'biological'. Much social science is troubled by the implicit willingness of racialized genomics to consider that there is a biological reality to race, be it in terms of ancestral-cum-regional-cum-racial markers or in terms of the validity of racial self-ascriptions as a basis for categorization in biomedical research. By worrying in this way, they return to a touchstone of their academic tradition. The clear distinction between (false) biological differences and (real) social differences has underpinned much social science work on race and racism since the middle of the twentieth century (Skinner 2007), but in practice this apparently clear distinction has been hard to sustain, and recent developments suggest that a more differentiated analysis is needed.

While if we look hard enough we can find examples of writers who see the new genetics as confirming the proposition that race is biology and ultimately linked to destiny, these are not cutting-edge researchers (see, for example, Leroi 2005; Sarich and Miele 2004). More representative are the so-called 'race-realists' such as Risch et al. (2002) who hold on to the validity of racial self-categorizations in biomedical research. In this type of research, the politically overloaded notion of race oftentimes gives way to the idea of population. The latter is thought to be a

more neutral term, as it is associated with gene-frequencies instead of traits and, at least in theory, acknowledges the clinal nature of such frequencies and the fluidity of boundaries between populations. However, critics of the ‘race-realists’ have argued that they ‘repeat the mistakes of scientific racism by *the selectiveness of their attention*. Genetic claims are consistently and almost singularly made about black people, striving to posit something that makes them qualitatively or quantitatively distinct’ (Richard Cooper et al., quoted in Hartigan 2009: 81, original emphasis). Obviously, the distinction between ‘race’ and ‘population’ is a thin line to tread, and authors such as the research team around Paul Martin, Richard Tutton and Andrew Smart have shown that these fine divisions are often blurred in scientific practice (see their contribution to this volume, Smart et al.).

Nevertheless, the point remains that the social and the biological are often hard to disentangle. For some researchers the aggregation of the social and the genetic is the best way to consider varying patterns of sickness and morbidity between different groups of people. It enables them to view the complexity and ambiguity of race/ethnicity as an asset – standing for bundles of bio/social factors that cannot and should not be disaggregated (Jackson 2001; Royal 2006). According to such a perspective, the high percentage of hypertension cases among African Americans is not simply due to the ‘genetic bottleneck’ of the Middle Passage but is rather the result of a combination of factors that have a lot to do with racism, including stress, class position, etc. Unless these are considered in medical research, the ‘racial ascription’ does not hold (cf. Duster 2003b).

Thus, the key issues here relate not to a battle between social and natural science or between biological and social accounts of race, but to the institutional, intellectual and political ‘back and forths’ between positions (Fullwiley 2007).

### **Ideas Travelling between Experts and the Public**

It is worth at this point highlighting one aspect of the Brazilian case study that we took up earlier in this introductory discussion. The Brazilian debate was shot through with assumptions about the impact of expert knowledge and practice on everyday experience and identity. Opponents of racial quotas worried about the spread of rigid, U.S.-style forms of race thinking to Brazil with resultant social and political polarization, the fear being that social policy categories would remake racial identities in their image (see, for example, Fry 2009a, 2009b). Equally, as we have seen, supporters put their faith in other kinds of expertise (apart from genetics) to win the political argument. However, both sides in the controversy perhaps overestimate the ability of experts to shape public debate and popular understandings. Detailed qualitative studies suggest, for example, that Brazilians seem to be able to operate with official systems of categorization and continue to understand themselves in terms of mixture.

As the Brazilian case shows, ‘the public’ often preoccupies the experts as a generalized other who is watching, must be kept in mind and, most frequently, might misunderstand or misuse racialized categories and data (this general tendency is typified by the arguments in Kahn 2004). In contemporary settings, laypeople have

a complex, active relationship with the new forms of expert knowledge (Collins and Evans 2002; Jasanoff 2006) – a situation that has been acknowledged in the broad research on newly emergent ‘biosocialities’ (Rabinow 1996, 1999), especially with critical regard to patient activism (cf. Gibbon and Novas 2008; Rabeharisoa and Callon 2002) and the new reproductive technologies (Strathern 1992), and is also well illustrated by the chapters on genetic ancestry testing by Nash, Schramm and Sommer in this volume.

Understanding the changing significance genetics holds for laypeople requires exploration of three related but distinct phenomena: the direct engagement between social actors with new biological knowledge and practice; the mediated engagement between public and representations of and debates around these developments in the press, on television and on the internet; as well as the changing place of science in public discourse and policy making (Collins 1988; Hilgartner 2000; Jasanoff 1994; Prainsack et al. 2008). Given that it underlies all contributions to this volume, a heightened awareness of these different levels of interaction will help us to understand the concrete translation processes that facilitate the travelling of DNA technologies between various contexts with very different levels of expertise and heterogeneous motives.

This perspective enables us to consider the role that the biological plays in everyday accounts and experiences of similarity and difference (as well as to better understand where and why biological factors might be ignored or discounted – see Johnston 2003). It also facilitates a thorough analysis of the performative dimension of identity politics, which is particularly relevant in the field of DNA testing and is as yet under-represented in academic debate.

The many ways in which natural and social scientists as experts of race and ethnicity come up against or work with laypeople are crucial to understanding the novelty of the current situation. Practical and political factors relating to both the conduct of research and the dissemination of findings draw genetic researchers into engagement with lay actors and policy categories. On a rather mundane level, ideally researchers have to consult communities, to enrol subjects into their research and to communicate findings in ways that are meaningful in the public domain.<sup>11</sup> At a more fundamental level, categories can only function as tools of research and policy if they gel with lay common sense, and this pushes them into a concern with categories that ‘make sense’ in the public domain (cf. Grundmann 2001; for the general argument, see Daston and Galison 2007). This explains the apparently contradictory trend of genetic researchers using self-categorization and official, nationally specific systems of racial and ethnic categories to make sense of biological processes.

## The Contributions

As our discussion so far suggests, we are sympathetic to approaches that discuss new emerging forms of ‘biosociality’ and ‘biological citizenship’. But although useful, these concepts can, if not carefully used, flatten out these differences in terms of the degree and form of regulation, the relationship between lay and expert knowledge,



and, indeed, in the relative significance of different developments. As Margarete Lock has cautioned in her work on Alzheimer's disease (e.g., Lock 2008), the role of genetics in the organization of (new) socialities around disease and disease risk – the field in which the idea of biosocialities has been mostly employed – is sometimes over-estimated, leading unintentionally into the very trap of reductionism associated with the gene hype. In accordance with Gibbon and Novas (2008), Lock argues for a 'distributed bio-sociality' (2008: 65) that takes into consideration the wider 'political economy of genomic knowledge and technology' (Gibbon and Novas 2008, Introduction: 7).

We take up this challenge, which we think is also vital to an understanding of the impact of DNA (or rather the knowledge and expertise associated with it) beyond the health sector. With our detailed analysis of the circulation of DNA technologies between different contexts, we propose a methodological approach that reaches down to where biosocialities are made in the first place. Rather than assuming what the outcome of the entanglements between new genetics, new forms of subject formation and governmentality, and identity politics are, we suggest first looking into the trajectories of DNA technologies, their preconditions, modalities and consequences. We start from the assumption formulated in the principle of symmetry of translation theory (Bloor 1976) that any token – in our case DNA technology, or the 'gene' for that matter (cf. Oyama 2000: 118) – does not only and primarily circulate and spread due to an intrinsic energy or power (such as its truthfulness, utility, moral superiority and beauty). In order to travel, a token must rather be picked up by diverse actors and integrated into their repertoires and actions, and they do this for very different reasons that are only partly related to the token and its characteristics. During this process of translation neither the token, nor the actors, nor the receiving and the sending contexts and the boundaries between these remain the same (cf. Latour 1986). All of this is changing due to ongoing translations and new links that are created in interstitial spaces between entities that were previously separate.

The authors who are assembled in this volume all share a concern with the complexities underlying contemporary identity politics in the wake of the new genetics, yet they employ a variety of means to achieve this goal. This is partly due to their different disciplinary backgrounds (in anthropology, sociology, geography, the history of science, science and technology studies, and medical research) and partly due to their specific questions and the settings in which these are examined: from scientific practice (Smart et al.), through the field of forensics and the constitution of national subjects (Skinner, Vaisman) to new kinship practices via biomedical and bureaucratic technologies (Wade) and the growing sector of commercial ancestry testing (Nash, Palmié, Schramm and Sommer). Although varied in terms of background and topic, our authors combine a focus on biology and the politics of race, ethnicity and racism with analyses of the interplay of the local, national and global dynamics of practices of science, policy and identity. They do so in a variety of ways by looking at representations (in various media – from the internet to scientific journals and databases), performances (in different actors' terms) and discourses (within and between the spheres of popular culture, law, science and politics).

The volume starts off with a contribution by Andrew Smart, Richard Tutton, Paul Martin and George T.H. Ellison, who draw on evidence from a three-year project that has explored the use of ‘race’ and ‘ethnicity’ in genetic and biomedical science. Their chapter engages with conceptual debates about social constructivism and explores what biomedical scientists mean when using expressions such as ‘social construct’, ‘social construction’ or ‘socially constructed’ in discussions about race and ethnicity. While genetic researchers are often portrayed as seeking to displace social accounts of group difference with biological alternatives, as Smart et al. show, contemporary scientists on the contrary are often willing and able to work with the definitions of social policy makers and lay actors. The notion that race ‘is a social construct’ is a useful way for scientists to manage the entanglements between identities and DNA thrown up by developments in genetics. The chapter centres around a Special Issue, entitled *Genetics for the Human Race*, that appeared in the renowned journal *Nature Genetics* and focused on the use of racial and ethnic categories in biomedical research. Smart et al. argue that there are differing and potentially inconsistent understandings amongst researchers about what is meant by ‘socially constructed’ when they talk about ‘race’ and/or ‘ethnicity’. The notion that ‘race’ is a social construction is part of a set of multiple and overlapping categorizations of human populations that seem likely to remain ambiguous, and subject to disagreement and blurring. As Smart et al. argue, while there thus remains room for fluidity, flexibility and novelty in the identity politics surrounding ‘race’ and genetics, this should not detract from the power or importance of the notion of ‘race’ in particular as it relates to historical and contemporary processes of racialization and racism.

Similar themes run through Chapter 2 where David Skinner locates analysis of the emerging biopolitics of race, genetics and identity within a wider account of the varied and changing use of official systems of racial and ethnic categorization. As such, he explores the multiple connections between the apparent biologization of racial and ethnic difference and the (often nation-specific) sociopolitical conditions under which racialization occurs. He also reminds us of the potential for surveillance, control and discrimination in the new genetic technologies. Skinner uses the case of forensic DNA databases (in particular, the British National Police DNA Database) to reveal a complex politics of knowledge centred on the construction and use of racialized data. In the British case a disproportionate number of young black men have DNA records stored on state databases. The ethnicity of each person included in the database is recorded alongside genetic data. The purpose of racializing each DNA record in this fashion is contested and ambiguous: is this a sinister precursor of ‘ethnic profiling’ or a means of monitoring the fairness of the system? As Skinner shows, discussion of the validity, reliability and legitimacy of ethnic categories and processes of categorization is endemic to the operation of the British forensic database. A continuing politics of categorization takes place in conditions that defy easy distinctions between the social and the biological or between (apparently plastic) self-identifications and (apparently fixed) official or scientific definitions of group difference. As Skinner argues, however, the continual consideration of category issues has often been a way of postponing discussion of the role of genetic science in an institutionally racist criminal justice system.

Peter Wade is also concerned with the changing dynamics of racial classification(s), in particular with regard to the notion of ‘race-kinship-congruity’. In Chapter 3 he argues that kinship and race (and ethnicity and nationality) are linked through ideas about relatedness and the transmission of substances, including genetic material but also less concrete substances such as ‘blood’. Discussing examples from Latin America and Europe, Wade examines how that link works and has changed over time. Based on Banton’s ideas of ‘race as lineage’ and ‘race as type’, he outlines a basic race-kinship intersection in cognatic Western kinship systems, in which parents are expected to give birth to offspring who are recognizably linked to either/both of their parents; the criteria of recognizability include racialized appearance. Wade then explores the shift towards ‘cultural racism’ and argues that despite the apparent abandoning of genealogical and physical criteria for race, these still play a key role precisely through the link between race and kinship and the role of ideas about race in bridging Western concepts of nature and culture. The chapter looks at technologies of kinship – assisted conception and transnational adoption – to see if recent changes in ways of understanding kinship have altered the way race and kinship intersect. Wade argues that there seem to be ways in which these new modes of kinship reckoning simply serve as arenas in which existing ideas about race are not only reiterated but are also renaturalized, and in which existing ideas about race shape and constrain kinship connections. But there also seem to be ways in which existing ideas about race are challenged, destabilized and even denaturalized, and in which ideas about kinship are also reshaped.

Noa Vaisman’s contribution (Chapter 4) is also concerned with the complexities of kinship, adoption and identification, yet not in a transnational framework but rather in one highly politicized national context. Among the many human rights violations committed by the military dictatorship in Argentina (1976–83) was the abduction of around 500 infants whose parents were ‘the disappeared’ – political opponents secretly killed by the regime. Separated from their biological parents, these children were assigned new identities and new state documents, and in most cases they were given away to be raised by the perpetrators of the crime and their accomplices. To this day the majority of these individuals, now in their early thirties, are unaware of their real genetic origins. As part of their struggle, a number of human rights organizations, principally among them the Grandmothers of the Plaza de Mayo, have been searching for these individuals, increasingly by means of genetic technologies of identification. The chapter traces both the historical circumstances that gave rise to the use of DNA in the search for the ‘living disappeared’ and the implications of its current use in shaping Argentine notions of identity. Vaisman shows how the DNA tests used in the identification of these individuals have raised questions about the complex relations between biological matter, social ties and identity.

In Chapter 5 Marianne Sommer takes us along the historical dimension of identity politics and its link to biology before and after DNA. Her chapter is mainly concerned with the application of a biologically founded and scientifically reconstructed history, and the ways in which geneticists of the twenty-first century are challenging the historian’s position as provider of identity-forming origin

narratives. Looking at iGENEA, a provider of genetic ancestry tracing services based in Switzerland, the chapter examines how commercial genetic ancestry tracing services provide new kinds of raw material through which to build personal, family and national histories. Sommer analyses the public discourses surrounding the company and explores the specificity of such an enterprise in Switzerland, and more generally in German-speaking Europe. As she shows, services such as iGENA raise significant questions: how is this history and genealogy on a genetic basis produced, sold and consumed? What needs does it satisfy/foster? And how does it differ from other kinds of historical reconstruction that occupy the same public-economic niche? Specifically, Sommer considers how in this case commercialized science deals with historically and culturally complex 'brands' such as *Heimat*, *Urvolk* and *Ursprungsland* ('homeland', 'aboriginal folk' and 'country of origin').

Obviously, there are connections and variations between the use and understanding of genetic ancestry testing in different contexts. A different case of ancestry testing is discussed by Catherine Nash in Chapter 6. Her analysis of 'Irish DNA' and the making of connections and distinctions in Y-chromosome surname studies brings the gendered meaning of genetic technologies to the foreground. Drawing on the online culture of genetic clan ancestry, Nash's chapter explores the ways in which ideas of shared origins and relatedness are being reconfigured through new genetic surname projects and the ways in which concepts of ethnicity and nationality figure in the complicated work of making new forms of meaning from test results. Though these projects may be informed by a desire to have a single ethnic affiliation genetically confirmed and a single place of origin genetically located, in practice they produce new genetic distinctions within these imaginative and virtual communities that challenge existing assumptions of relatedness, collective identity and belonging. But geneticizing Irish clan ancestry in this strand of global genealogy is not just a matter of diasporic ethnic identifications but of understandings of identity and difference in Ireland and Northern Ireland too. In the context of the long history of ethnic division and conflict in the north of Ireland, new genetic knowledge can both complicate and reconfirm understandings of an indigenous Gaelic population and of biological distinctions between native and settler groups. The chapter consequently considers the ways in which ideas of nationhood, ethnicity and relatedness are being reworked in this strand of genetic genealogy in relation to the politics of national and diasporic belonging.

In Chapter 7 Katharina Schramm further explores the diasporic and gendered dimension of ancestry testing, looking at its usage, representation and interpretation across the Black Atlantic (Gilroy 1993). She examines how this practice combines notions of symbolic heritage and biological inheritance in unique ways. Previously established racial and ethnic categories, such as 'black', 'African', 'Ghanaian' or 'Asante' that carry specific cultural and political meanings are thereby reconfigured and embedded in new networks of relatedness. Schramm explores this process with regard to other forms of (black) identity production, the politics of memory and the constitution of knowledge. She demonstrates how, through its combination of techniques of embodiment, purification and objectification, genetic ancestry testing

constitutes a unique location where the changing dynamics of individual and collective categorizations can be fruitfully explored. Her analysis of the representational dynamics of ancestry testing is embedded in a discussion of three interrelated aspects: the impact of slavery on notions of identity and belonging in diasporic settings; the specifics of U.S. multiculturalism and the connected ethnicization of belonging; and, finally, the situation in African states, such as Ghana, which are at the receiving end of the genealogical quest.

Detailed case studies such as those by Schramm, Nash and Sommer raise general questions about the practice, appeal and longer term impact of genetic ancestry testing and its underpinning assumptions about identity and science. It is therefore appropriate that the volume ends with an ambitious and provocative bid to reframe these questions. Stephan Palmié discusses the practice of ancestry testing, or personal genomic histories (PGHs), and the science on which it is based through the lens of the anthropological concept of ‘cults of affliction’. He argues that the marketing strategies of PGH providers and their resonance in public discourse throw intriguing light on the reproduction of ideologies that, in naturalizing the experience of racism, displace its (structural) sources downwards into the realm of the biotic in a manner revealingly reminiscent of the manner in which classic drums of affliction displace them upwards towards the divine. Beyond that, however, the chapter aims to demonstrate how the abductive logic (in C.S. Peirce’s sense) of both Afro-Cuban divination and molecular biological identity arbitration works to constitute forms of sociality. The chapter suggests, in the spirit of a Latoureaux ‘symmetrical anthropology’, that if PGH products really serve the purposes advertised by their providers and the media, then we might be facing a troubling situation: one where the acquisition and inhabitation of genomically ‘rooted’ identities would ultimately represent little else than a practical response to the mobilization of enchanted technologies in the service of contextually rational projects of identity management – however much these contribute to the reproduction of the social reality of ‘race’.

## Final Thoughts

Palmié’s chapter has the great merit of moving us on from repeatedly asking whether genetic accounts of racial, ethnic or national similarity are intrinsically true or false. Instead, it leads us to consider how and why such accounts might come or not come to be usable and useful. An appreciation of what we have called ‘travelling ideas’ facilitates this agenda shift. Taken as a whole, the chapters in this book demonstrate the importance of drilling down to the complexities of and connections between various times, places and institutional contexts in which identity and DNA come together. They reveal a contemporary biopolitics that is haunted by visions of a past and future of scientific racism, and in which science and politics make a multiplicity of criss-crossing connections. Here it makes little sense to speak of a single key actor and to deduce the dynamics of the arena from there – instead, we need to consider the distributed agency (Garud and Karnøe 2003) in DNA-based knowledge and technologies.

Together the chapters highlight global, regional and local factors but, for all the universalistic claims of genetics, a recurring theme is the continued significance of the nation state as imagined community, policy apparatus and a key arena where political and scientific controversies are played out.

A model of travelling ideas also allows us to understand and manage what can often seem to be a frustrating lack of clarity about the message of DNA and, indeed, the meaning of core conceptions of 'race' and 'ethnicity.' Together the chapters in this book reveal much about the ways in which DNA technologies function as 'immutable mobiles' that maintain aspects of their ontological qualities throughout their journey, yet at the same time acquire new and partly contradictory meanings and functions in different settings. A comparable analysis can also be applied to race and ethnicity – concepts that are strikingly resilient and resonant yet open-ended enough for interplay between widely distributed actors and actants operating with different and partly incoherent interests, intentions, reality assumptions, and epistemologies.

We believe that a strength of this collection is its range of case studies – there is much to be learnt by discussing DNA and racialized identity across the different spheres of medicine, forensics, genealogy, etc. Our volume has a preponderance of chapters that deal with genetic ancestry testing, a feature which is, we would argue, a timely counterbalance to the ways in which this aspect of genetics has often been trivialized or dismissed elsewhere. Genetic ancestry testing is a sphere where the active performance of identity claims is most foregrounded, but combining discussion of ancestry testing in this collection with a range of different examples allows us to see elements of the same preoccupation with the active expression of identity in other areas as well. It also allows us to see the interconnection of individualized and group identities, and of identification by self and identification by others that is present across racialized genetics as whole. The active assertion, discovery or choice of identity by laypeople is frequently presented as a check or balance to the imposition of racial and ethnic labels from above, but contemporary race experts also operate on, with and through the idiom and practice of 'self-identification'.

We acknowledge that this is a collection whose interdisciplinarity only extends as far as the borders of the social sciences. Returning to the theme of our opening paragraphs, however, the time now seems right to replace the language of social constructivism with new ways of talking about race and science. We cannot take the debate 'Is race biological or social?' at face value, but instead should consider how different moves between the social and the biological are utilized by various actors (see Jasanoff 2005 and the overarching argument in Rheinberger 2007). We are struck by the ways in which our emphasis on travelling ideas reverberates with the aforementioned strand in current biology that objects to the gene determinism that dominated the 'century of the gene' and focuses on developmental systems instead, placing environments, organisms, cells, genes, etc., in a processual framework of mutual constitutedness and distributed agency (Oyama 2000; see also Oyama, Griffith and Gray 2001). This collection attests to a similar conceptual shift in the social sciences. We believe that it is from here that a new interdisciplinarity in the study of life in all its expressions and facets may evolve.

## Notes

1. The editors would like to thank Stephan Palmié, Peter Wade and the two anonymous reviewers of Berghahn Books for their helpful comments on earlier versions of this introduction.
2. One also needs to be aware that epigenetics might also lead to a pure affirmation of 'the biological' by locating all processuality within the body (or the cell) while ignoring the social dimensions of interaction between people, people and the environment, etc. This point was made by Geoffrey C. Bowker during a workshop on 'Genealogical Practices', which took place at the Institute for European Ethnology, Humboldt-University Berlin, in December 2007. Katharina Schramm would like to thank Michi Knecht for inviting her to participate in this workshop.
3. This was already stressed by Richard Lewontin as early as 1972 (Lewontin 1972).
4. David Skinner would like to thank Sahra Gibbon and colleagues for the invitation to participate in the 'Genetic Admixture and Identity in Latin America' workshop held at UCL, London, 20–21 February 2009. The contributions to this workshop inform this discussion.
5. The underlying 'referential ambiguity' has already been noted by Marvin Harris in his analysis of racial classification in Brazil (see, for example, Harris 1970).
6. Their argumentation was built around an attack of Michael Hanchard's (1994) analysis of the Brazilian *Movimento Negro* and his advocacy for Black political action. Their polemics have been criticized for their superfluous dichotomization between national settings – a negatively portrayed U.S. racialism on the one hand and a positively connoted Brazilian (and implicitly French) politics of race relations on the other, as well as their ignoring of transnational dimensions of racial oppression (cf. French 2000; Hanchard 2003).
7. Such a strict national (or regional) focus also ignores the importance of diasporic movements and the ideas travelling through and around them in a globalized space – cf. Schramm 2008; Thomas and Clarke 2006.
8. An early inspiration for this strand of thought has been Alonso's concept of 'substantialization' (Alonso 1994), which does not yet take into account the impact of the new genetics, but rather focuses on blood.
9. Interestingly, in apartheid South Africa, which was a society obsessed with race and classification (cf. Bowker and Star 1999: 195–225), courts did not accept genetic 'evidence' as a basis for their decisions regarding individual racial reclassifications; personal communication between Katharina Schramm and Trefor Jenkins, 19 July 2010.
10. See Roberts et al. (2004). Thanks to Anja Wiegner for drawing our attention to the Maori case.
11. Compare the controversial views on the level of this public involvement in the case of DeCODE Genetics and the Icelandic genetic database, as expressed in Pálsson and Rabinow (1999) versus Fortun (2008).

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