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Mobile Identities and Fixed Categories

Forensic DNA and the Politics of Racialized Data

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Introduction

A number of commentators have detected the beginnings of a ‘biopolitics’ of race, ethnicity and racism in which DNA becomes an object of value and struggle (Skinner 2006).¹ This dynamic politics involves the interplay of experts from both the natural and social sciences, policy makers and the lay public in sometimes surprising and novel configurations. But although in some situations new genetics are part of changes in understandings, representations and experiences of ‘race’, science is also being reframed within contemporary sociopolitical and governmental settings. The intention of this chapter is to contribute to the analysis of this changing politics by considering a basic but fundamental issue: if, why, when and how can people be categorized into distinct racial or ethnic groupings?

As other contributions to this collection show, identity (in all its multiple and ambiguous meanings) is central to the new politics and practices of DNA. We should remember, however, that identification is not just about self-expression but is also about the expert observation and organization of people in groups. Discussion of categories brings us to the heart of many of the new practices that connect ‘race’ and genetics. Patients are, for example, placed into groups in order to make sense of patterns in DNA and differences in drug response. Population genetics, as the name suggests, depends on the allocation of people into subpopulations. Similarly, in genealogical projects, self is understood by locating the individual in a relationship to categories (even if this is to acknowledge admixture). Each of these forms of genetic practice is dependent on ‘racialized’ DNA data – that is, data recorded, managed and analysed using ethnic and racial categories.

This chapter will consider a sphere of the new genetics where the collection, organization and use of racialized DNA data is both commonplace and contested – criminal justice. Taking the example of a state-run forensic database (Britain’s Police National DNA Database), it shows some of the complex ways in which discussions of race and DNA can be linked to new social and political conditions. Also, for all the universalistic claims of the new genetics, their articulation and interpretation is highly variable, both institutionally and nationally. Detailed analysis of the racialization of the database and the political debates it has provoked shows how the new genetics interacts with existing and emerging wider regimes of classification and identification.

This chapter begins with a discussion of categorization in general, arguing that it is fundamental to much policy, scientific and political practice around race, ethnicity and racism. For all this, it is also an area marked by disputes and ambivalence about the reliability, validity and ethical implications of using categories. This analysis informs the core of the chapter, which considers the ‘practical politics’ (to borrow Geoffrey Bowker and Susan Leigh Star’s [1999] phrase) of racial categories and categorization in forensic science in Britain. The example of forensics – in particular, the mass-taking of DNA samples by the state, and their transformation and storage as computerized DNA profiles without the need for normal standards of free consent – reveals aspects of identification and citizenship different from those typically discussed in relation to, for example, health or genetic ancestry testing. The chapter explores political and expert debate about the use of race categories to organize genetic data and about the value and meaning of such racialized data. This debate takes place in the context of systemic racism and minority disadvantage within the British criminal justice system. The role of racialized data as either an indicator of or contributor to that disadvantage is ambiguous. Discussion of the implications and reliability of racialized data continues as inequalities grow; for all the energy put into monitoring the ethnic makeup of the database, the resulting data appears not to allow full consideration of how collection of DNA may itself be a driver of inequality.

A key point of this chapter is the uniqueness of the British case of the racialization of forensic DNA: the details of the debate about categories has features that belong firmly to one specific time, place and policy context, and as such act a counter to universalistic predictions of the sociotechnical impacts of new genetics. However, the preoccupation and dissatisfaction with categories that the chapter charts has a more general relevance. As the chapter illustrates, in the new biopolitics of DNA, three apparently contradictory trends coexist. The first of these is the promise of genetics to offer truths about identity and group membership. The second is the way that official, national standardized systems of race classification and data collection feature in policy making and scientific practice. The third is a growing preoccupation with ethnicity as a personalized process of active identification. As the chapter will conclude, the evident tensions between these three trends are often presented as problematic, but in practice they support each other and allow the racialization of DNA to take place.

Race Categorization

Discussions of race and ethnicity often draw a questionable distinction between ‘real’ or ‘constructed’ categories (for a more detailed discussion of this issue, see Chapter 1 in this volume). This distinction is unhelpful if ‘constructed’ is equated with ‘false’. One does not have to deny the reality of patterns in genetics, life chances or shared cultural traditions to acknowledge that categories used to make sense of them are constructs. The discussion of genetically-based differences in drug responses between groups, using DNA to decide race ancestry and, indeed, showing the association between race and life chances all involve turning continuous, clinal or cline-like distributions of people and characteristics into distinct, grouped populations and variables through an active process of categorization. Different methods of sampling, measuring, naming and sorting will hide or emphasize different population characteristics and also highlight or downplay similarity or difference across the population as a whole. But revealing the artifice and effort involved in applying racial and ethnic categories does not automatically imply that they are unreliable or invalid any more than demonstrating a connection between a population category and a variable shows that race is ‘real’. There is no unique way of dividing up populations, there are better or worse ways of doing this and that better or worse depends on why it is being done.

Discussions of the legitimacy of race categories are at once conceptual and political, implying different analyses of the problem of and solutions to racism. Some analysts equate the problematization of all category distinctions with anti-racism. Others view racialized data as an instrument of anti-racist politics and policy, and argue that an apparently ‘colour-blind’ approach (which views categories as meaningless or of no consequence) merely reinforces core themes of contemporary racism. This latter point is well put by David Theo Goldberg (2008), who writes of the complexity of the connection between an ‘anti-racial conception’ and an ‘anti-racist commitment’. We are, argues Goldberg, at a moment where the necessity and complexity of that connection is often lost; a moment where “the refusal of racism reduces to racial refusal; and racial refusal is thought to exhaust antiracism.”

Now, what is refused in this collapse, what buried alive? What residues of racist arrangement and subordination – social, economic, cultural, psychological, legal and political – linger unaddressed and repressed in singularly stressing racial demise? (Goldberg 2008: 1)

One particular tension running through the discussion of racial and ethnic categories lies between analysing their use in general and acknowledging the great variations that exist between locations in significance and format. I write from an experience of Britain, where racial and ethnic categorization is a routine feature of public life in ways that may in some ways be familiar in the U.S.A. but that do not have an equivalent in other European countries. In France and Germany, for example, there is little or no official racialized data collected or used by the state. The British approach is unique in Europe. The debate currently taking place in France about

whether the state should begin to assemble such data takes place on very different terms (and concerns very different categories) from those familiar in Britain (Finney and Simpson 2009: Chapter 2).

The new biopolitics of genetics and ‘race’, as expressed in the case of forensic DNA, is profoundly influenced by and connected to other practices and politics of ethnic and racial classification. In Britain the placing of people into distinct racial or ethnic categories is a recurring and largely unchallenged feature of the contemporary setting. Racial and ethnic categories are, at one at the same time, analytical tools, policy instruments for knowing and managing populations, and the raw material of identity politics. But however well established the principle of racial categorization is in Britain, the process of categorization is contentious and the detail of categories remains fluid. The categories used in the U.K. Census provide the basis of other systems of categorization used across the public realm, in policy practice and (as Smart et al. discuss in Chapter 1 in this volume) are also frequently used by medical and genetic researchers. But since their first appearance in 1991 the categories (and the technique of categorization) have changed at each ten-year census point. The 2011 census featured a new multiple set of questions encompassing national identity, racial or ethnic identity and religion. In 2011 the Scottish census for the first time used different race and ethnicity categories from the census for England and Wales.

While the collection and discussion of racialized data is an established feature of academic and public life in Britain, categories are a continued arena for dispute in the academic and public realms, to the extent that some academics from both the natural and social sciences have questioned whether they should be used at all. Within the social sciences, racial and ethnic categories are frequently utilized in research but have also been subjected to two kinds of critique. The first argues that using racialized data is methodologically invalid and politically reactionary because it contributes to the reification of racial differences, giving them a solidity and legitimacy that they do not deserve (see, for example, Robert Miles’ [1993] critique of the ‘sociology of race relations’ and also Carter 2000). The second suggests that the collection of racialized data may do no good because it seems a substitute for action (or an alibi for inaction) on inequality and racism by, for example, shifting the focus in variations between minorities’ ‘progress’ (examples of this argument made in the 1970s and 1980s are discussed in Gordon 1992; for a more recent example, see Gillborn 2008).

This social science discussion links (as we will see later in the chapter) to similar uncertainties and debates in the life sciences and in the wider public domain. If, when and how people should be placed into racial or ethnic groups, which categories are legitimate and what category membership means are all questions that detain not only academic researchers but also policy makers, policy practitioners and those who are categorized. A recurring feature of the discussion of categories is that developers, users and subjects of systems of categorization also harbour an ambivalence about categorization – continuing to use the categories and at one at the same time doubting their reliability or validity and highlighting their potential for misinterpretation and misuse. Laypeople will at points place themselves within standard categories for pragmatic or ‘strategic’ reasons (Hickman et al. 2005; Santos 2009) whilst chafing

at the simplifications of origins and identity involved. This familiarity with the procedures and labels of categorization can be accompanied by dissatisfaction with the categories and the processes of categorization, and mistrust and misunderstanding of what happens to racialized data (Skinner 2009). In parallel to the ambivalence of the categorized, social scientists and natural scientists use categories while holding methodological, practical and ethical concerns about their legitimacy.

Whatever their peculiarities, it is also useful to view official and academic racial and ethnic categories as one particular variation on the use of standardized systems of classification in the production and management of knowledge that is a ubiquitous feature of contemporary intellectual and institutional life. Standardized categories, in Bowker and Star's memorable phrase, 'saturate our environment' and are a crucial part of information infrastructures built by the state and other key organizations. As such, they serve as decision-making tools and aids to the coordination of activity across time and space. The operation of these infrastructures, their categories and ever-growing datasets is in the contemporary world dependent on ever more powerful computer-based technologies for storing, organizing, analysing and communicating information.

Bowker and Star's work is a touchstone in the analysis of the collection and use of racialized data. Researchers of new race biopolitics have cited Bowker and Star to make the point that categories embody ethical and political decisions (for example, Kahn 2008): 'Each standard and each category valorises some point of view and silences another' (Bowker and Star 1999: 6). Others, notably Fullwiley (2007), make use of Bowker and Star to support the argument that, once established, categories themselves come to be powerful, channelling and constraining discussion and experience in ways that come to shape the realities they purport only to describe.

There is, however, another dimension of Bowker and Star's analysis that should be added to the discussion of racialized data. Bowker and Star show us that it is not only systems of ethnic and racial classification that can seem messy or contradictory. Systems aspire to consistent classificatory principles and mutually exclusive categories, and leave nothing unclassifiable (Bowker and Star 1999: 11). However, no working classification can meet these requirements. For all their significance and apparent solidity, large-scale categorization systems inevitably have a degree of variation, ambiguity and plasticity, and there are always deletions and anomalies. Although categories are inspired by ideals of objectivity, precision and standardization, in practice they are continually (re)constructed hybrids that encompass the conventional, the local and the everyday. Central to Bowker and Star's analysis of systems of classification is the way in which categories act as 'boundary objects' that allow cooperation and discussion across contexts. Standardized classification systems develop utility and usability through what Bowker and Star term a 'dynamic compromise' (55). They must maintain some kind of coherence across time and space while permitting enough flexibility and customization to allow for the situated and distributed knowledge of the realities that they wish to encompass. As Bowker and Star highlight, large-scale systems of categorization have 'recursive' problems of standardization and require ongoing maintenance work. Much of the ongoing work

required to operate systems and the arguments, uncertainties and decision-making processes that shape them are ‘hidden’ or ‘deleted’ (Berg 1997; Schwartz, Nardi and Whittaker 1999).

This last point is important because a position frequently adopted by critics of systems of collection and use of racialized data is to unveil the inconsistencies in the operation of categories. This discussion of the operation of standard systems of classification in general reminds us that the inconsistencies, shifts and disputes we find in race categorization may be exceptional, but only by degree. However, this is an area where effort, uncertainty and artifice around the operation of categories is never fully obscured from public view.

DNA, Race and Criminal Justice in Britain

Although, they have grown to become some of the largest collections of genetic information in the world, police forensic databases did not initially provoke the same kind of media, political, legal or analytical concern as biomedical DNA databases (Tutton and Levitt 2009: 85). As Richard Tutton and Mairi Levitt show, despite this contrast, forensic databases share important features with medical biobanks. Like other applications of the new genetics, forensic databases are ‘promissory objects’ – innovations driven by claims as to their future significance more than their current utility (this point is also elaborated in Fortun 2008). As with biobanks, the promise of forensic databases is delayed: despite some high-profile successes, their overall impact on crime detection and conviction rates is limited.

Faith in forensics to deliver a step-change in the efficiency of criminal justice rests on a powerful consensus as to the reliability of DNA matching (using techniques pioneered in the U.K.) to potentially resolve questions of guilt or innocence:

For perhaps the only time in history, a technology has emerged with the epistemic authority to credibly challenge the law’s claim to being a truth-producing institution. (Cole 2007: 98)

What is striking is that the dominant controversies about DNA technology now revolve around the competence of the criminal justice system rather than the reliability of the technology itself. (Lazer 2004: 4)

Since the publication of Cole’s and Lazer’s assertions, claims about the fallibility of evidence based on DNA profiling have begun to appear in the public domain, particularly in the U.S.A. (see, for example, Felch and Dolan 2008a, 2008b).² Nevertheless, the credibility of techniques to sequence and match forensic DNA remains very high and influences discussion of the merits of the mass construction, storage and manipulation of DNA records. It is useful, however, to distinguish between four uses of DNA in criminal forensics: first, the matching of the DNA of a known suspect to crime-scene DNA; secondly the verification of identity (i.e., is someone who they say they are?); thirdly, population surveillance via the cold

searching of databases of DNA in the hope of matching an as-yet-unknown suspect to crime-scene DNA; and, fourthly, the analysis of DNA data to gain an insight into patterns and causes of criminality. This distinction is important: the reliability and ease of matching DNA to link suspects to (or eliminate them from) crime scenes may be hard to question, but the desirability and utility of mass genetic surveillance or the assembly of DNA databases to research the genetic components of criminal behaviour are separate issues, even if they are often bundled together.

In Britain the Police National DNA Database (referred to as the NDNAD) was established in 1995. Official estimates in 2009 put the size of the database at 5.6 million records, equivalent to eight per cent of the population. The NDNAD is often claimed to be the largest forensic database in the world; it is certainly (in terms of population coverage) the most comprehensive.³ This reflects a particularly pronounced preoccupation in the U.K. with the potential of DNA analysis, 'scientific policing' and sociotechnical applications of social control (Innes and Clarke 2009). The NDNAD is not only the largest but also the most used database, with 'cold searches' regularly conducted to match crime-scene samples to existing genetic records. This is in marked contrast to the U.S.A. where, as Lazer and colleagues point out (2004), despite considerable financial and political investment in the building of databases, financial constraints have limited their day-to-day use.

Although the use of 'DNA fingerprinting' and later faster and cheaper matching techniques in the detection of crime and the righting of miscarriages of justice soon became a staple of media coverage, in its early years the NDNAD attracted relatively little political or academic attention. By 2006, however, this had changed. There are two underlying factors to consider here. First, new campaigning groups in Britain were successful in lifting concerns about privacy rights up the political agenda. Initially these concerns focused on government proposals for a national identity card scheme, but broadened to critique 'the database state'.⁴ Secondly, there is the continual, unchecked growth of the NDNAD. This growth results from the storage of material not just of those convicted of crimes but also (since 2001) those charged but later acquitted of a recordable offence, since 2003 those arrested but never charged with a recordable offence and since 2008 those subject to control orders under counterterrorism legislation. The database also contains DNA voluntarily donated as part of an investigation. There is currently no limit on the length of time these computerized records are held. Thus, the NDNAD is a probably the best illustration of the growing scope of forensic databases around the world, arguably marking what Tutton and Levitt and others view as a purposive shift from a database of 'active criminals' to a tool for policing the population as a whole.⁵ At the time of writing, the U.K. government is currently formulating its response to a European Court ruling requiring the deletion of the records of over 900,000 people who have samples stored and records on the database despite never having been convicted of a serious crime (Almandras 2009).

The growth of the NDNAD and the debate which it has prompted raise a whole range of interesting questions about surveillance and privacy and about the relationship between the state and its citizens. The flipside of hopes for genetics to

deliver a step-change in crime detection and deterrence is that investment in forensic databases has developed in a period when fears of crime and, debatably, attempts to ‘govern through crime’ have been in the foreground (Cole 2007). We can link the growth of forensic databases to a phenomenon that Greg Elmer and Andy Opel (2008) term pre-emption: the assumption that authorities can and should predict and manage potential risks rather than react to crimes once they have been committed. Thus, the retention of the DNA of those arrested, regardless of whether they are charged with or convicted of a crime, and the storage of the DNA of petty criminals are justified on the basis that they present a heightened risk of future criminal behaviour. Less commonly explicitly articulated is another dimension of this logic of pre-emption: that recording people on the database will act as a deterrent to future criminal activity.

While the development of the NDNAD has been driven and sustained by the faith in its ability to provide a technological fix to crime and to fear of crime, its impact on deterrence or detection is hard to quantify. Recent official figures show that between 2007 and 2009 (during which period the number of records on the database grew by a million) crime detection via NDNAD searches fell from over 41,000 in 2007 to just under 32,000 in 2009 (written parliamentary answer 25 November 2008, Column 1250W). We might contrast the seamless, super-efficient ‘truth machine’ (borrowing a phrase from the title of Lynch et al. 2008) envisaged by utopian accounts of the future of the database technology (and also to an extent in the dystopian fears of its critics) with the messy day-to-day realities of the taking of DNA, its transformation into electronic data and the management and manipulation of that data in the database. It is estimated that between thirteen and fourteen per cent of all the records on the NDNAD are ‘replicates’ created when a genetic profile is loaded onto the database on more than one occasion. The National Police Improvement Agency (NPIA) has said that replication could occur ‘for example if the same person provided different names, or different versions of their name, on separate arrests, or because profiles are upgraded’. Meg Hillier MP told the House of Commons that replication rates were being reduced and that ‘much work has gone on to educate police forces in taking DNA samples’ (House of Commons Home Affairs Select Committee 2008: 76). In July 2009 police and prison inspectors reported finding DNA samples next to ice cream in a West Yorkshire Police freezer. In August 2009 an official inspection of eight Cambridgeshire police stations found DNA samples stored alongside amongst other things a half-eaten takeaway meal and frozen raw meat: ‘Fridges in most suites were full of forensic samples that had not been dealt with and there was widespread evidence of systematic failings in the handling, storing and destruction of forensic and DNA samples’ (BBC, 4 August 2009).

In January 2010 the Home Office also conceded that a substantial but unknown number of long-serving prisoners convicted of very serious offences did not have records on the NDNAD. All the above suggests the hard ongoing work of sociotechnical construction that the database requires.

In response to increased public and political focus on the NDNAD, there has been a strengthening of the governance of the database. This move has been framed

as ensuring continued 'public trust' (see, for example, House of Commons Home Affairs Select Committee 2008). Much of this has followed a pattern set by medical databases. We can see this first institutionally with the involvement of the Human Genetics Commission, a U.K. government body whose members' experience and expertise was previously in health, and the establishment of a National DNA Database Strategy Board and Ethics Advisory Group (2007) with a strong representation of people from a biomedical background. Secondly, it follows a familiar pattern for the management of 'difficult' issues thrown up by the new genetics, in that there is a concerted attempt to frame problems as 'ethical' dilemmas and as belonging to the domain of the expert community of bioethicists rather than being matters of politics and public interest. Whatever its influence, the regulatory structure has no formal statutory basis (Almandras 2009: 4–5). In contrast to some other European countries (see Machado and Silva 2009 for discussion of the Portuguese example), Parliament has never formally decided or ratified the parameters and use of its national forensic database. A report from the Human Genetics Commission (2009) called for such a legislative process to take place and for the role of the Ethics Advisory Group to also be placed on a firmer footing.

The 'ethnic appearance' (a term worthy of reflection) of each person placed on the NDNAD is recorded (along with their age and gender) and stored with their genetic data. Racialized DNA allows the analysis of relative rates of representation on the NDNAD across different population groups. While this also holds for age and gender distributions (the records on the database are eighty per cent male and predominantly from the under thirty-five age group), other patterns are less easy to explore because of the lack of categorization, notably class. Critics of the database and/or of institutional racism in the criminal justice system have highlighted the unequal likelihood of members of different ethnic groups having their DNA sampled and stored. Calculations in 2006 suggested thirty-seven per cent of black men had a record of their DNA stored in the database. This compared with thirteen per cent of Asian men and nine per cent of white men. These estimates are more striking when considering the age groups most likely to have samples on the NDNAD. It was estimated in 2006 that seventy-seven per cent of black males aged fifteen to thirty-four have a police DNA record (Randerson 2006). The campaigning group Black Mental Health also highlighted the large proportion of black people living in London on the NDNAD. Official figures also suggest that nearly a quarter of all people never convicted of a crime but with a NDND record are from ethnic minorities.

The mass collection of the DNA of young black men should be considered, together with the use of 'familial' and 'low stringency' searches of DNA databases (Cole 2007; Greely et al. 2006). This technique investigates a suspect's blood relatives (see Williams and Johnson 2005 and 2008 for discussion of its use in the U.K.). Family searching potentially reinforces and magnifies the inequalities between groups likely to be on the database by, in effect, also placing close blood relatives under genetic surveillance. Writing about the U.S.A., Cole plausibly speculates that in situations where arrest and conviction rates are high, 'this could quickly result in

effectively incorporating whole neighbourhoods and ethnic communities into the database' (Cole 2007: 103). The same holds true in the British context, although the numbers of such searches currently conducted is relatively low (National Police Improvement Agency 2007: 6).

As Cole's work shows us, we can assume from other disparities in patterns of crime and the operation of the criminal justice system that particular minority groups are over-represented on the U.S. CODIS forensic database. Henry Greely et al. (2006: 258) infer from conviction data that forty per cent of the records on the U.S. system belong to African Americans. We do not have official data to support this because, unlike the NDNAD, CODIS does not classify individual records by race. Kahn (2009), however, describes a different way in which a forensic database can be racialized. In U.S. court cases forensic evidence is routinely retrospectively interpreted in racialized form, with the random matched probability (RMP) odds of someone else having the same DNA profile being reported in relation to race-specific population databases. As Kahn shows, this race-odds approach might have had some legitimacy when testing was in its infancy, but more sophisticated techniques now generate RMPs in the billions, whatever racial group they are compared to: 'With such odds, the practical utility of distinguishing RMPs by race disappears. Nonetheless, race has remained ingrained in the framework of the production and interpretation of forensic DNA evidence' (Kahn 2009: 328).

One concern raised about the growth of forensic databases has been their potential for 'profiling' offenders – seeking patterns in offender DNA to predict criminality in individuals and groups. In both the U.S.A. and Britain there is also a debate about the use of DNA to construct racialized profiles of unknown perpetrators (for an early example of the work in this area, see Lowe et al. 2001). The scientist credited with pioneering DNA fingerprinting foresaw its use to predict the phenotypical features of suspects as long ago as 1993 (Jeffreys 1993). In the same year Ian Evtt of the Home Office Forensic Science Laboratory in Birmingham claimed in the *Journal of Forensic Science and Society* that a DNA test that could distinguish between 'Caucasians' and 'Afro-Caribbeans' (cited Duster 2004: 326). Although there are now some indications that the U.K. government will tighten up the governance of secondary use of DNA collected for forensic purposes, this had previously been seen as a resource ripe for commercial and scientific exploitation. The Home Office has in the past given permission for material from the database to be used in research projects investigating the feasibility of inferring a crime suspect's ethnicity or skin colour from DNA, although this inference would be removed at once (i.e., linking location and ancestry) (GeneWatch UK 2006). The science behind the prediction of race/ethnic appearance from DNA is questionable: many of the practical and conceptual problems with linking genotype with phenotype or with region of origin that have been highlighted by critics of racialized medicine and ancestry testing also apply to this area (Bolnik 2008; Dupré 2008; Feldman and Lewontin 2008).

Discussion of ethnic profiling has not been helped by the varied lay, policy and scientific use of the term 'profiling' itself and, in particular, slippage between discussion of three distinct practices:

1. The prediction of the ancestry and/or racial appearance of an unknown suspect using crime-scene DNA.
2. The isolation of specific genetic markers associated with criminal activity and the connection of these markers to particular ethnic/racial groups.
3. The singling out of particular population groups for extraordinary policing by placing members of the group under genetic surveillance.

In writing of SNP profiling of offenders as a ‘new phrenology’ (Duster 2004), Troy Duster and others have conflated the profiling of criminal types, the profiling of racial types and the special policing of particular groups. There is, however, little evidence that the three types of ethnic profiling are combining to any great extent in the ways that Duster’s formulation implies. The fears of Duster and others of a ‘new phrenology’ seem to miss the ways in which contemporary forensics uses distinct biological and social registers. This is not a simple continuation of or return to a eugenics discourse. While Cole (2004: 81) rightly highlights the potential for figures on the ethnic composition of databases to give (perhaps unintentionally) credibility to biologically deterministic accounts of criminality, racial profiling can and does take place without a direct link between genetic characteristics and criminal propensities. When racial markers are sought, they are in ‘junk’ DNA (Abu El-Haj 2007). Tellingly, this same confusion between different senses of ‘profiling’ has been used to deflect concerns about the racialization of the NDNAD. The Home Office was in 2008 able to reassure a Parliamentary Select Committee that the NDNAD could not be used in an attempt to develop genetic profiles of those likely to offend. Their argument was that the record of an individual on the NDNAD consists of ten markers from areas of DNA which do not play an active role in determining personal characteristics: ‘The NDNAD therefore is not and will not be used in attempt to correlate particular genetic characteristics with propensity to commit crime’ (House of Commons Home Affairs Select Committee 2008: 80–81).

While this was presented as a position on ‘profiling’, it did not preclude the development of techniques to divine the likely racial/ethnic origin of a crime suspect or indeed the use of the NDNAD for extraordinary policing of particular racial and ethnic populations. Both of these continue to be features of the operation of the database.

Categories, Categorization and the Politics of the DNA Database

The disproportionate numbers of black people on the database and the use of DNA to profile suspect ethnicity are clearly areas of interest and concern. The collection and storage of genetic data in racialized form is an important context to these developments – although the U.S. shows that forensic DNA can be racialized at other points than an individual database record. To understand the parameters of the controversy about the racialization of the NDNAD, we should, however, acknowledge that the classification of genetic material is only one of many different ways in which racial and ethnic categories operate in the British criminal justice system. Racialized data is routinely collected and used. To provide two examples:

- Until recently, every police service in England had government targets for the recruitment of police officers from ethnic minorities.⁶ They regularly report figures of applications from, recruitment of, retention of and promotion of people from particular ethnic minorities. Forces engage in ‘positive action’ to recruit and promote people who fall within particular categories.
- Every street ‘stop and search’ and ‘stop and account’ conducted by the police should result in an official record. This record includes details of the stopped person’s ethnicity. The resulting data is used to produce service level and national statistics.

Recruitment targets and stop and search figures are only two examples of what is a much wider phenomenon: a mass of racialized data collected and reported relating to many different aspects of the British criminal justice system. There has been a long history of poor relations between the police and Britain’s black and Asian minorities. The 1999 Macpherson Inquiry into the botched police investigation into the racist murder of Stephen Lawrence argued that the police were ‘institutionally racist’ (Macpherson 1999). Minorities were not only victims of face-to-face discrimination by individual officers but suffered because of the normal operating assumptions of the police and other aspects of the legal system. Black people are over-represented at every punitive stage in the criminal justice system (Bowling and Phillips 2002; Riley et al. 2009). The Race Relations (Amendment) Act 2000 placed a requirement on all public bodies, including the police and prison services, to actively promote ‘race equality’ and ‘cultural diversity’. Later (following civil disturbances in 2001, the war on terror and the July 2007 London bombings), ‘community cohesion’ became the focus of policy making. These issues have been formally linked to public sector performance measures and have become themes of training and professional development across the public sector. In this setting, the collection, collation and evaluation of racialized data has become, in the past decade, an increasingly important feature of the management in criminal justice (see, for example, Riley et al. 2009) and other areas of public service provision such as health, education and housing.

However, we should note that across the three examples from criminal justice – the DNA database, recruitment targets and stop and search – categories are important but also contentious and politicized. In all three cases there is a lively ethical, methodological and practical debate about the collection and use of racialized data that extends across the value of collecting the data by category, the meaningfulness of categories, which categories are worthy of inclusion and the reliability of techniques of day-to-day classification on which they depend.

It is worth considering the connections and disjunctions, the similarities and differences between the politics of ‘biological’ and ‘social’ in these conditions. To what extent is racial categorization deemed a different issue when it is linked to genetic data rather than social circumstance? It is notable that different interests support the collection of some kinds of racialized data and not others. Many within the police see the recording and reporting of racialized data on stop and search or

recruitment, retention and promotion as unnecessary and/or unreliable. There is a concerted campaign against the recording of data on stop and search as turning police work into overly bureaucratic 'form filling'. A different group of campaigners raise concerns about the collection and use of racialized genetic data. Often these politicians (for example, the Liberal Democrats), race relations professionals (for example, the Commission for Racial Equality and its successor organization, the Equality and Human Rights Commission) and campaigning groups (for example, Black Mental Health) will be supportive of the collection of racialized data on stop and searches and police recruitment.

Another telling point of comparison relates directly to the process of categorization. Racial categories utilized across the British criminal justice system focus on broadly similar groups. These are termed 'ethnic' but usually relate chiefly to black, Asian (in a British context meaning people whose family origins are on the Indian subcontinent) and other groups historically seen as been of different appearance to the majority white population. However, allowing for that broad focus, there are significant differences in the categories used. The NDNAD utilizes the 'PNC' (Police National Computer) classification. This classification is well established for internal use within the police: it is used, for example, by the police to describe suspects in witness statements. The other examples use the '16+' classification developed for the 2001 national census and now frequently used in 'ethnic monitoring' across the public sector. The differing categories of the two systems are summarized in Table 2.1. As the table shows, category differences reflect more than variations in terminology or approaches to the consolidation of subsets into population groups. The PNC classifications of 'Arab' and 'Dark Skinned European' have no equivalents in other areas of U.K. policy practice. The PNC system also precludes the categorization of people as 'mixed'.

These two forms of categorization (one emerging from internal police practice and the other from wider policy parameters) are not the only potential or actual approaches to the issue. One alternative comes from Black Police Associations (BPAs) in England and Wales. In the BPAs, what Holdaway and O'Neill (2006) term 'police ethnicity' rests on a distinct working experience that mark 'black' officers as different from 'white' officers. The U.K. National Black Police Association website defines 'black' as follows: 'The emphasis is on the common experience and determination of the people of African, African-Caribbean and Asian origin to oppose the effects of racism. Everyone within policing is eligible to join the NBPA (There is no barrier to membership).'

As the BPA example illustrates, there is variation not only between categories used but also in practices for placing people into categories. With the recording of DNA, people are categorized based on 'the operational judgement of the arresting officer'. In contrast, many other categorization practices in the criminal justice system utilize 'self-identification', where the subject is asked to place herself or himself in one of a number of prescribed categories. Police recruits do this for 'ethnic monitoring' and, despite the potential difficulties and tensions, self-reporting is also utilized in the collection of stop and search data.

Table 2.1. Contrasting Ethnic/Racial Categories in the British Criminal Justice System

<p>'Ethnic Appearance' Categories as used in Police National Computer (PNC) and Police National DNA Database (NDNAD)</p>	<p>16+1* (UK 2001 Census) Categories used by the government to describe the UK population. Also used within the criminal justice system to monitor the ethnic composition of, for example, the prison population, police service staff, and those formally stopped and searched by the police.</p>
<p>Afro-Caribbean Arab Asian Dark Skinned European Oriental White Skinned European</p>	<p>Asian or Asian British Indian Pakistani Bangladeshi Other Asian Black or Black British Caribbean African Other Black Chinese or other ethnic group Chinese Other ethnic group Mixed White and Black Caribbean White and Black African White and Asian Other Mixed White British Irish Other White</p>

*The +1 refers to information refused.

I have discussed the operation of racialized categories and the use of racialized data in the criminal justice system in some detail because it frames the politics of racial categories and categorization and the NDNAD. Since 2006, privacy campaigners have used data on inequality of storage by ethnic group to highlight wider concerns about the operation and use of the database – that is, as evidence of the dangers of relying on and expanding the NDNAD in general (Anderson et al. 2009 for the Joseph Rowntree Reform Trust; Nuffield Council on Bioethics 2007). Some other groups also began to articulate concerns specific to ethnic minorities (Genewatch

UK, Black Mental Health, Liberty, the Liberal Democrats, the Commission for Racial Equality and the Equality and Human Rights Commission). These concerns were also expressed on occasion by members of the Labour government that presided over the growth of the NDNAD since 1997 (replaced by a Conservative and Liberal Democrat coalition in May 2010). During a parliamentary inquiry into 'Young Black People and the Criminal Justice System', Minister Baroness Scotland claimed that three-quarters of the young black male population would soon be on the DNA database:

The implications of this development must be explored openly by the Government. It means that young black people who have committed no crime are far more likely to be on the database than young white people. It also means that young white criminals who have never been arrested are more likely to get away with crimes because they are not on the database. It is hard to see how either outcome can be justified on grounds of equality or of public confidence in the criminal justice system. (Quoted in House of Commons Home Affairs Select Committee 2008: 81)

Whatever the concerns raised about racism and the NDNAD, it is open to question whether the routine use of categories in other areas of social policy helps desensitize in respect of this kind of categorization. While there were a range of voices raising misgivings about unequal representation on the NDNAD, there was far more uncertainty as to the implications of the estimates. For example, some contrary voices suggest that the unfairness should be addressed by recording the DNA of all British citizens. In September 2007 the then President of the Black Police Association argued that the system was 'untenable' and mooted a universal system where samples of the DNA of all British people were stored. This reprised an argument previously made in the U.S.A. (where patterns of racial inequality are also evident in the composition of current forensic databases). Kaye and Smith use 'racial justice' to make the case for a universal database. They suggest that expanding the database to all arrestees would decrease disparities and also encourage more public and professional consideration of the use and abuse of the database: 'a population wide DNA database would serve as at least partial, much needed antidote for the racial distortions that plague the criminal justice systems. DNA evidence does not care about race' (Kaye and Smith 2004: 271).

A further complication to note is that although often quoted, the provenance and accuracy of estimates of unequal representation in the NDNAD is questionable. These estimates use data supplied by the U.K. Home Office in response to written parliamentary questions (e.g., *Hansard*, 13 December 2006) compared against 2001 census figures for the ethnic mix of the British population. The comparison methodology is limited – not least because of the different approaches to categorization used in the database and in the census, the increasing outdatedness of the snapshot of the U.K. population from the 2001 census given recent changes due to rapid inward migration and population growth, the complication that the database does not just hold the DNA of current U.K. residents and finally the debate as to whether minorities

are more likely than average to feature among the replicate samples. Thus, even the racialization of DNA does not allow precision or accuracy in the calculation of levels of inequality. While there is a broadbrush indication that the system disadvantages black people, the detail of the estimates is open to question and may exaggerate the exact extent of the inequality or obscure important details of how it operates.

The issue of race inequality has been discussed in the new fora that have recently been established as (post hoc) attempts to provide more transparent and rigorous governance of the NDNAD. In the annual reports and meeting minutes of the NDNAD Strategy Board and Ethics Advisory Group we can trace ongoing discussion of the issue of the disproportionate number of black people on the database and the ‘risk to public confidence’ in the database that such disproportionately poses (numerous examples can be found in the Strategy Board minutes available at www.npia.police.uk/en/14189.htm). Since 2007 the NDNAD has been subject to a series of Equality Impact Assessments (EIAs) – a public sector practice designed to review whether policies unintentionally disadvantage particular groups. Problems of categorization and the limits of the current system as a way of monitoring policing practice are recurring themes. The Equalities Impact Assessments (National Police Improvement Agency 2007, 2009a, 2009b) recommend that DNA should be categorized using the 16+1 categories and self-identification in parallel with the use of the PNC categories. The EIAs also seeks racialized data on familial searching, deletions from the database, and replicates and records of those arrested but never charged.

As the reservations expressed in the EIA show, underlying the practice and debate of the DNA database are not just two systems of categories and categorization – one internal to policing and the other in the lingua franca of public policy – but two distinct motivations for the collection and use of racialized categories. The first of these is monitoring – that is, to measure the impact of a practice on particular groups as part of an equalities agenda and to highlight unfairness. The second is profiling – that is, to gain a better understanding of patterns of criminal behaviour. As the EIA points out, the current use of categories is far from a satisfactory monitoring tool (National Police Improvement Agency 2007: 8–9). In addition, if monitoring was the sole purpose, then race data could be taken and stored separately from genetic records.

The confusions and tensions between categories for profiling and monitoring are evident amongst opinion formers and campaigners who have focused on the racialization of the NDNAD. They express concern about both the disproportionate numbers of people from minorities whose DNA records are stored and the potential use of the database for ‘ethnic profiling’, but the implications for the use of categories are left open. Specifically, is the use of racial categories in this case a facilitator of or a protection against racism? Underlying the diffuse but nagging unease about race and the NDNAD are a number of different accounts of why racialization is a concern. Sometimes these are clearly defined, but often they are bundled together. However, Table 2.2 is an attempt to differentiate the range of positions (and their assumptions and implications) by outlining six ideal-type approaches to the ‘problem’ of the database. Tellingly, each approach models its stance on a pre-existing controversy and, as the table illustrates, can imply different positions on the collection and storage of DNA by race category.

Table 2.2. The ‘Problem’ of a Racialized NDNAD

The problem is ...	It is like/ part of another problem of ...	The collection of racialised data ...
discrimination against minorities	abuse of police powers	allows us to see that young black men are targeted by the police
state power over the citizen	the database state	illustrates the potential in the database for unfairness to individuals and invasion of personal privacy
criminalisation of minorities	institutional racism	reveals the dynamics of a process whereby minority groups are placed under ‘genetic surveillance’
negative stereotyping of minorities by associating them with criminality	previous controversies about the selective reporting of racialised crime statistics	itself contributes to stereotyping when put into the public domain
the use of samples for research into group differences and ‘ethnic profiling’	scientific racism	allows profiling to take place
samples are put to secondary use, e.g. in research into group differences and ethnic profiling without permission of the donor	biomedical ethics	is problematic because donor has had no say in if/ how s/he is racialised or analysed

As Table 2.2 suggests, different ways of framing the NDNAD as a problem imply different approaches to the use of race categories. In some cases the use and discussion of data in racialized form is itself deemed problematic, while in others it allows for the monitoring of injustice in the operation of the database and the wider criminal justice system.

Whatever its merits, the collection and use of racialized monitoring data has happened alongside deepening race inequalities not just in the composition of the NDNAD but across the criminal justice system – for example, in the ethnic composition of the prison population. When data on, for example, the mass representation of young black men on the NDNAD is discussed, it is often in ways that avoid rather than address the fundamental dynamics underlying these inequalities and chiefly as part of a narrow discussion of the ‘fair’ administration of bureaucratic procedures. I have already discussed one dimension of this – a preoccupation with the limitations of the available data, the incommensurability of different official datasets and the inappropriateness of the current systems of categories and modes of categorization. In arenas such as the NDNAD Strategy Board and Ethics Advisory Group to date, consideration of inequality and systemic racism has largely been delayed in favour of

discussions of the limitations of the current data (Ethics Group 2009). The call is for a consistent approach to categories across the criminal justice system (using the 16+1 schema) and for the use of self-identification as the standard means of classification.

Thus, discussion of the racialization of the database is often postponed in favour of a discussion of inconsistent categories. There is a related preoccupation with potential inaccuracies in the estimates of black representation on the database that circulate in public debate. A Working Group established in 2007 by the Strategy Board to ‘take forward work on producing a more robust estimate of young black men on the NDNAD’ is yet to reach any conclusions (National Police Improvement Agency 2009b: 10).

Alternatively, spokespeople for the government and the NPIA have sought to move the focus on the NDNAD to a wider discussion of statistics on race and the criminal justice system. See, for example, this paper exchange between the government and the House of Commons Home Affairs Select Committee when it reported on ‘Young Black People and the Criminal Justice System’ (2007):

Recommendation 66: That the Government should conduct a study to determine the implications of the presence of such a high proportion of the black male population on the National DNA Database (para 319, Main Report; para 75, Conclusions and recommendations).

Response: The Government agrees. It also states: ‘... while data suggests that any bias in proportionality reflected in the criminal justice system as a whole and not because of inherent bias in National DNA Database processes, we must ensure that this is the case.’ (Secretary of State for Justice 2007: 40)

Once again, racialized data itself becomes the focus of discussion rather than the racism it reveals. While the NDNAD Strategy Board and Ethics Advisory Group seek consistency of categories, the Home Office and the NPIA seek consistency of unequal outcomes across policing, courts and prison data. This explains the importance attached to the comparison of the number of profiles on the NDNAD and racialized data on ‘arrest events’ as evidence that there is no ‘bias’ in the system (House of Commons Home Affairs Select Committee 2009: 83). A similar approach allows the portrayal of the database as a neutral component of the criminal justice system: ‘The NDNAD has no ability in itself to be discriminatory as it is a repository for information supplied. Where there is disproportionate data, this is the result of criminal justice system and police processes that determine whose information is obtained for recording’ (National Police Improvement Agency 2009b: 11).

This is, however, an approach that could be applied to any pressure point in the criminal justice system without allowing analysis of institutional racism. In particular, it allows little consideration of how collection of DNA is itself a driver of inequality across the criminal justice system by stigmatizing minorities, placing minorities under greater surveillance and deepening the implications of existing disproportionate use of police powers against minorities.

Discussion: Categories of Identity and Identification

The case of the NDNAD shows us that the development, use and contestation of formal systems of ethnic and racial categorization, and the ways in which these systems come up against, enrol and enrage the public are fruitful topics for analysis. Categorization tells us much about the context and consequences of new genetic accounts of human similarity and difference.

Crucial here are questions of when, how and why categories and conventions of categorization are established and maintained. Both genetics and race/ethnicity have global currency and local articulations. The case of the racialization of the NDNAD and the controversies it has prompted highlights the role of the nation state as a key frame for political debate. It reveals a politics of racialized knowledge that is inseparable from a wider, shifting constellation of representations, debates and policies about race, ethnicity and racism. The science of forensic testing, the management of databases and the notion that someone's ethnicity can be revealed genetically are transnational but the biopolitics, the approach to collection and use of racialized data, and the terms of controversy belong very much to a particular social and political setting – Britain at the start of the twenty-first century.

While this sphere of the new genetics may be more prone to prioritizing national variations over international considerations, other supposedly universal, transnational forms of genomic science also reach accommodations with national regimes of categorization by, for example, routinely using national census categories to explore group differences (Martin et al. 2007). This compromise between local, national and transnational factors is not without its problems. Thus, for example, Suarez-Kurtz (2005) reports how differences between 'white' and 'black' drug responses identified by U.S. researchers have no equivalent in Brazil. However, as Martin et al. (2007) show, there are compelling reasons for genetic researchers to persevere with census categories:

The scientists who used the UK's 'official' classifications of race/ethnicity valued these because they were felt to have proven practicability and portability – i.e., they had political legitimacy; they were acceptable to the public; they were easy to use; they permitted comparisons between studies; and they facilitated the translation of research findings into clinical practice. (Martin et al. 2007: 6)

These priorities can seem troubling because they seem to confound any clear distinction between the biological and the social (Skinner 2007). But much contemporary research on race/ethnicity and genetics avoids or actively objects to assertions that there is a biological reality to race. This mix of 'socially constructed' categories and genetics is highly pertinent in the case of the NDNAD. The debates about categories and the database have a particular character and urgency because they centre on genetic data, yet DNA is implicated in the politics of race, racism and criminal justice without there being any necessary presumption that criminal behaviour has a genetic basis. As we have also seen, it is difficult to disentangle the

collection and use of racialized data for operational or scientific purposes from the collection and use of racialized data for management and policy-making purposes: monitoring data is connected to profiling data and is by no means subservient to it.

Apparent slippages between discussion of race/ethnicity in social or biological terms are often characterized as the result of a lack of thought or care on the part of experts. Jonathan Kahn, for example, argues that in U.S. forensics, race categorization is deemed a common-sense process that requires no special expertise – ‘race is seen as easy and obvious; DNA is seen as difficult and complex’ (2009: 348). Others see in genetic research a process of bracketing off the complexities and contradictions of racial categorization – what Smart et al. (2008) in their discussion of biomedical genetics term an ‘ostrich tendency’ – being aware of the problems with categories but persisting in using them anyway (see also Fullwiley 2007). But this is only part of the story: the NDNAD example reveals a lively politics of knowledge preoccupied with the heterogeneous, plastic and provisional character of categories. This involves both life science and social science expertise at a variety of different levels from the collection and interpretation of samples through to the contestation of policy and practice. Rather than a lack of care, we can witness a difficult renegotiation of relationships between natural science and social science, and also of relationships between experts, ‘the public’ and policy makers. Expertise is required to align scientific and political projects, manage populations and enrol the public in knowledge production.

In practice, race categories can never be other than hybrid boundary objects encompassing or standing for a number of different qualities that defy easy distinctions between folk and expert, biology and society, science and policy, and the national and the universal. As such, they allow activity that spans the laboratory, the police station and the parliamentary committee. As I suggested at the start of the chapter, we can learn much by placing discussion of this issue in a wider analysis of information systems. Some of the disquiet over inconsistencies in the use of racial and ethnic categories seems misplaced since the problems highlighted are those endemic to the operation of categories in any large-scale information infrastructure. But while all systems must manage ‘heterogeneous definitions and goals’ (Bowker and Star 1999: 148) through the interplay of the vernacular and the formal, the practical politics of race categories are continually exposed. There are particular, recursive issues of stabilization and standardization. The work put into sustaining these systems remains more provisional and visible than in other cases. Race categories certainly have not achieved what Bowker and Star term ‘infrastructural inversion’ (34) – running so smoothly that they become invisible and unquestionable.

Yet, for all this, a discussion of ‘race’ can apparently take place despite the transparent artifice involved in sorting people into groups and the incommensurability of different systems of categories and categorization. In the biopolitics of racialized data, the messy, disputed present is often contrasted with an ideal of the eventual convergence and stabilization of race category systems. However, as the NDNAD case study shows, this endpoint is unlikely to be reached. We are likely to continue to see the coexistence of different systems and these systems will continue to be disputed and debated. Experts, policy makers and laypeople will continue to use categories

while also doubting their validity and reliability. For all sides, categories can be at various points open to scrutiny or taken for granted, legitimate or illegitimate – at points categories matter or do not matter. But the supposed chronic ‘problems’ of race/ethnicity categories are integral to their operation.

As Tutton and Levitt rightly argue, while many accounts of the politics of the new genetics focus on the ways in which identities are freely expressed or reclaimed through DNA, consideration of forensic databases adds a different dimension to discussion of identification:

If we think of this as a form of ‘genetic citizenship’ or ‘biological citizenship’ then it clearly has very different features than the celebrated cases of the self-organizing citizens who form support and advocacy organizations, for whom biological knowledge is a source of their self-identification. This is not about self-definition but definition by the state; a social sorting into the suspect and non-suspect for the operational purposes of policing. (2009: 14)

Tutton and Levitt connect the collection of forensic DNA to the control and management of populations. Citizenship here is about identification by (or the obligation to identify oneself to) the state. The ‘donors’ of DNA in this case have a different relationship to their samples, records and the categories in which they are placed than, for example, donors to medical biobanks or users of genetic ancestry testing services. Forensic DNA samples are typically taken and used without the conventions, permissions and safeguards that surround other forms of donation. The U.K. is one of a number of European jurisdictions to stipulate that donor permission is not required when taking samples from people convicted or suspected of a crime. Other countries (such as Belgium, Cyprus, Germany, the Republic of Ireland, Portugal and Spain) do claim some form of informed consent is needed for samples to be collected, but it is open to question how ‘informed’ or ‘voluntary’ consent can be in these circumstances (Machado and Silva 2009: 337).

The distinction between freely giving consenting DNA and having no choice but to provide it is important. In this area, however, even ‘volunteering’ DNA is not without constraint or compulsion. In September 2009 the UK Border Agency announced a pilot scheme to use genetic testing and isotope analysis to confirm the origins of people claiming political asylum. The systematic taking of samples of the tissue of people seeking the right of settlement in the country clearly took notions of biocitizenship in new directions and immediately provoked a hostile political and scientific response. But we should also acknowledge that a far more established and commonplace practice is for applicants for residence (often following legal advice) to ‘choose’ to send their DNA to commercial ancestry and/or paternity testing services to support their identity and relationship claims.

Similar ambiguities lurk in the discussion of how DNA is racialized. For some critics of the NDNAD, the current arrangement of police officers deciding in which ethnic category to place a donor’s sample is taken as primary evidence of the ways in which the system bears down on the individual. A move to the 16+1 categories and

self-identification is seen as providing greater reliability (by allowing comparison with other racialized datasets), greater validity (as more meaningful measure of ethnicity) and is deemed intrinsically more ethical. It is, however, open to question whether giving donors the right (or obligation) to categorize themselves equates with a lack of constraint. Any move by those managing the database towards self-identification will, on its own, do nothing to tackle the structural inequalities in its operation.

There is a general point here. Self-identification seems a poor substitute for voluntary donation and/or rights over the way in which our data is used once it is on the database. Self-identification categories suggest a benign version of biocitizenship in which identities are freely expressed or reclaimed. However, this does not adequately consider the extent to which lay understandings and categorizations are themselves constrained and managed. Categories do not just reflect existing identities, they reproduce and reinforce them. When categories and categorization have become part of mundane organizational practice and everyday experience, as they have in contemporary Britain, people may have little choice but to choose to place themselves in a category. The messy, micro and expressive dimensions of categorization facilitate rather than frustrate the management of information and people. As Star wrote early in her exploration of information systems, 'the contingencies of action always shape even the most abstractly represented tasks' but also 'tasks that appear to be the product of individual minds are in fact distributed and collective' (Star 1992: 396).

For some of its supporters, a move towards self-identification places race/ethnicity firmly in the social realm and removes any links between genetics and race. But here too there is a paradox. The self-identification technique of racial and ethnic classification is now common across the new genomics, notably amongst medical researchers and pharmacogeneticists who consider racial groups to have distinct, genetically-based characteristics. This move to self-identification is driven in part by the evident unreliability of other techniques of categorization. As some forensic researchers have already argued, citizens' self-identification may be a better guide to 'true genetic ancestry' than the classificatory judgments of police officers (Lowe et al. 2001).

Identity is a continually ambiguous term used to make sense of external labelling and subjective experience, and a sense of social location plays a pivotal role in the biopolitics of race and genetics (Skinner 2006). These ambiguities can make 'identity' a powerful tool to reconcile (apparently plastic) personal biographies and (apparently fixed) official and scientific categories of group difference. Changing political priorities mean that for the state, self-identification is not only a means to assemble racialized data but often the primary research objective (Tutton 2007). In a situation where the recursive problems of information systems cannot just be confined to the technical realm, 'identity' also becomes a way of glossing the contradictions of (and managing the politics of) racialized data.

The NDNAD is a case in which the classification of DNA by race features in ways that seem to confound simple positions for or against racialization. Neither a refusal to collect racialized data nor the existence of that data seems on their own to address the normalized, systemic racism at the heart of the system. Certainly, the

rights to the expression of cultural identity and to bureaucratic transparency seem easier concessions for the state to grant than the right to equal treatment by the criminal justice system.

Also of significance here are the roles that the discussion of racialized data and the inevitable accompanying discussion of the limitations of categories and categorization play in politics and policy making. Despite awareness of patterns of racial/ethnic membership of the NDNAD, discussion of racialized official data can also allow race inequality and racism to be hidden in plain sight. There is merit in borrowing here from David Gillborn's analysis of racism in the British education system (2008). Gillborn has very effectively considered how and why government and other public institutions collect and use racialized data for reasons other than a commitment to combat racism. He convincingly argues that the collection and use of data on educational attainment can obscure rather than reveal the realities of continuing structured racial disadvantage. For example, he critiques the preoccupation of academics and policy makers with differences in aggregate educational performance between various minority groups and small changes over time between groups in their educational outcomes. This 'gap talk' 'fails to recognise the scale of the present inequality and how relatively insignificant the fluctuations are' (2008: 65). Gillborn argues that this approach allows business as usual within the educational system and precludes consideration of historically institutionalized inequalities. At the very least, this analysis might lead us to ask what does racial/ethnic monitoring of the collection and use of forensic DNA records achieve? Is this about the elimination of what Gillborn (2008: 64), using Roithmayr's phrase, terms 'locked-in inequality' or the management or justification of that inequality?

Notes

1. I would like to thank Adam Bostanci, Greg Elmer, Stephan Feuchtwang, Richard Rottenburg, Vincenzo Scalia, Katharina Schramm, Julia Selman-Ayetey and an anonymous reader for their comments on an earlier version of this chapter. I would also like to acknowledge the work of Julia Bailey whose contribution to the policy research discussed in this chapter was funded by the Anglia Ruskin University Undergraduate Researcher Scheme.
2. Interesting in this respect is the Innocence Project (www.innocenceproject.org), a non-profit legal organization in the U.S.A. dedicated to exonerating wrongly convicted people through the use of DNA evidence. The Innocence Project has, however, also highlighted miscarriages of justice based on 'unvalidated or improper forensic science'.
3. Established in 1998, the FBI's Combined DNA Index System (CODIS) competes for the title of the largest database. However, the NDNAD undoubtedly covers the largest proportion of its population of any national forensic database.
4. The campaigning group NO2ID is in terms of membership and active support probably the most successful new social movement in the U.K. in recent times.
5. As Lazer (2004) outlines, U.S. forensic DNA databases are growing rapidly. The criteria for taking and storage of DNA varies between states (Lazer and Meyer 2004), but many now keep DNA records of people arrested and not just convicted of felonies.
6. That they consistently fail to meet.

Bibliography

- Abu El-Haj, N. 2007. 'The Genetic Reinscription of Race', *Annual Review of Anthropology* 36(1): 283–300.
- Alamandras, S. 2009. Retention of Fingerprint and DNA Data. Standard Note: SN/HA/4049, House of Commons Library, last updated 7 December 2009.
- Anderson R. et al. 2009. *Database State: A Report Commissioned by the Joseph Rowntree Reform Trust*. York: Joseph Rowntree Reform Trust.
- Bento, J. 2009. *Police and Racism: What Has Been Achieved Ten Years after the Stephen Lawrence Inquiry Report*. Equality and Human Rights Commission.
- Berg, M. 1997. 'Of Forms, Containers, and the Electronic Medical Record: Some Tools for a Sociology of the Formal', *Science, Technology and Human Values*, 22(4): 403–33.
- Bolnik, D.A. 2008. 'Individual Ancestry Inference and the Reification of Race as a Biological Phenomenon', in B.A. Koenig, S. Soo-Jin Lee and S.S. Richardson (eds), *Revisiting Race in a Genomic Age*. New Brunswick, NJ: Rutgers University Press, pp. 70–85.
- Bowker, G. and S.L. Star. 1999. *Sorting Things Out: Classification and its Consequences*. Cambridge, MA: MIT Press.
- Bowling, B. and C. Phillips. 2002. *Racism, Crime and Justice*. London: Longman.
- Carter, B. 2000. *Realism and Racism: Concepts of Race in Sociological Research*. London: Routledge.
- Cole, S.A. 2004. 'Fingerprint Identification and the Criminal Justice System', in D. Lazer (ed.), *DNA and the Criminal Justice System*. London: MIT Press, pp. 63–90.
- _____. 2007. 'How Much Justice Can Technology Afford? The Impact of DNA Technology on Equal Criminal Justice', *Science and Public Policy* 34(2): 95–107.
- Dupré, J. 2008. 'What Genes are and Why there are no Genes for Race', in B.A. Koenig, S. Soo-Jin Lee and S.S. Richardson (eds), *Revisiting Race in a Genomic Age*. New Brunswick, NJ: Rutgers University Press, pp. 39–55.
- Duster, T. 2004. 'Selective Arrests, an Ever-Expanding DNA Forensic Database, and the Specter of an Early-Twenty-First-Century Equivalent of Phrenology', in D. Lazer (ed.), *DNA and the Criminal Justice System*. London: MIT Press, pp. 315–34.
- Elmer, G. and A. Opel. 2008. *Pre-empting Dissent: The Politics of an Inevitable Future*. Winnipeg: Arbeiter Ring Publishing.
- Ethics Group. 2009. 'National DNA Database Annual Report'.
- Felch, J. and Dolan, M. 2008a. 'DNA Matches aren't Always a Lock', *Los Angeles Times*, 3 May.
- _____. 2008b. 'FBI Resists Scrutiny of "Matches"', *Los Angeles Times*, 20 July.
- Feldman, M.W. and R.C. Lewontin. 2008. 'Race, Ancestry and Medicine', in B.A. Koenig, S. Soo-Jin Lee and S.S. Richardson (eds), *Revisiting Race in a Genomic Age*. New Brunswick, NJ: Rutgers University Press, pp. 89–101.
- Finney, N. and L. Simpson. 2009. *'Sleepwalking to Segregation'? Challenging Myths about Race and Migration*. Bristol: Policy Press.
- Fortun, M. 2008. *Promising Genomics: Iceland and deCODE Genetics in a World of Speculation*. Berkeley, CA: University of California Press.
- Fullwiley, D. 2007. 'The Molecularization of Race: Institutionalizing Human Difference in Pharmacogenetics Practice', *Science as Culture* 16(1): 1–30.
- Genewatch UK. 2006. 'Using the Police National DNA Database – Under Adequate Control?' Research Briefing. Retrieved 20 February 2011 from http://www.genewatch.org/uploads/f03c6d66a9b354535738483c1c3d49e4/research_brief_fin.doc
- Gillborn, D. 2008. *Racism and Education: Coincidence or Conspiracy?* London: Routledge.

- Goldberg, D. T. 2008. *The Threat of Race: Reflections on Racial Neoliberalism*. London: Blackwell.
- Gordon, P. 1992. 'The Racialization of Statistics', in R. Skellington and P. Morris (eds), *Race in Britain Today*. London: Sage, pp. 20–43.
- Greely, H.T. et al. 2006. 'Family Ties: The Use of DNA Offender Databases to Catch Offenders' Kin', *Journal of Law, Medicine & Ethics* (Summer): 248–62.
- Hickman, M. et al. 2005. 'The Limitations of Whiteness and the Boundaries of Englishness: Second-Generation Irish Identifications and Positionings in Multi-ethnic Britain', *Ethnicities* 5(2): 160–82.
- Holdaway, S. and M. O'Neill. 2006. 'Ethnicity and Culture: Thinking About "Police Ethnicity"', *British Journal of Sociology* 57(3): 483–502.
- House of Commons Home Affairs Select Committee. 2007. 'Young Black People and the Criminal Justice System 2006–07'. London.
- . 2008. 'A Surveillance Society? Fifth Report of Session 2007–08'. London.
- . 2009. 'Young Black People and the Criminal Justice System Second Annual Report'. London.
- Human Genetics Commission. 2009. 'Nothing to Hide, Nothing to Fear: Balancing Individual Rights and the Public Interest in the Governance and Use of the National DNA Database'. London.
- Innes, M. and A. Clarke 2009. 'Policing the Past: Cold Case Studies, Forensic Evidence and Retroactive Social Control', *British Journal of Sociology*, 60(3): 543–63.
- Jeffreys, A.J. 1993. 'DNA Typing: Approaches and Applications', *Journal of the Forensic Science Society*, 33(4): 204–11.
- Kahn, J. 2008. 'Patenting Race in a Genomic Age', in B.A. Koenig, S. Soo-Jin Lee and S.S. Richardson (eds), *Revisiting Race in a Genomic Age*. New Brunswick, NJ: Rutgers University Press, pp. 129–48.
- . 2009. 'Race, Genes and Justice: A Call to Reform the Presentation of Forensic DNA Evidence in Criminal Trials', *Brooklyn Law Review* 74(2): 325–75.
- Kaye, D.H. and M.E. Smith. 2004. 'DNA Databases for Law Enforcement: The Coverage Question and the Case for a Population-Wide Database', in D. Lazer (ed.), *DNA and the Criminal Justice System*. London: MIT Press, pp. 247–84.
- Lazer, D. (ed.). 2004. *DNA and the Criminal Justice System – The Technology of Justice*. Cambridge, MA: MIT Press.
- Lazer, D. and M. Meyer. 2004. 'DNA and the Criminal Justice System: Consensus and Debate', in D. Lazer (ed.), *DNA and the Criminal Justice System – The Technology of Justice*. Cambridge, MA: MIT Press, pp. 357–90.
- Lowe, A.L. et al. 2001. 'Inferring Ethnic Origin by Means of an STR Profile', *Forensic Science International* 119(1): 17–22.
- Lynch, M. et al. 2008. *Truth Machine: The Contentious History of DNA Fingerprinting*. Chicago: University of Chicago Press.
- Machado, H. and S. Silva, 2009. 'Informed Consent in Forensic DNA Databases: Volunteering, Constructions of Risk and Identity Categorization', *BioSocieties* 4(4): 335–48.
- Macpherson, W. 1999. *The Stephen Lawrence Inquiry: A Report of an Inquiry by Sir William Macpherson of Cluny*. London: The Stationery Office.
- Martin, P., R. Ashcroft, G.T.H. Ellison, A. Smart and R. Tutton. (2007) 'Reviving Racial Medicine? The Use of Race/Ethnicity in Genetics and Biomedicine Research, and the Implications for Science and Healthcare'. St George's, University of London. Retrieved 20 February 2011 from <http://www.raceandgenetics.org>

- Miles, R. 1993. *Racism after 'Race Relations'*. London: Routledge.
- National DNA Database. 2007. *National DNA Database Annual Report 2006–2007*.
- National Police Improvement Agency. 2007. 'National DNA Database (NDNAD): Equality Impact Assessment: Stage One'.
- 2009(a). 'National DNA Database (NDNAD): Equality Impact Assessment: Stage Two'.
- 2009(b). 'National DNA Database (NDNAD): Equality Impact Assessment: First Review of Stage Two'.
- Nuffield Council on Bioethics. 2007. 'The Forensic Use of Bioinformation: Ethical Issues'. London: Nuffield Council on Bioethics.
- Randerson, J. 2006. 'DNA of 37% of Black Men Held By the Police', *The Guardian*, 5 January.
- Riley, J., D. Cassidy and J. Becker. 2009. *Statistics on Race and the Criminal Justice System 2007/8*. London: Ministry of Justice.
- Santos, R.V. 2009. 'Doing Interdisciplinary Research on Population Genetics in Brazil'. *Genetic Admixture and Identity in Latin America, London, 20–21 February 2009*. London: University College London.
- Schwartz, H., B.A. Nardi and S. Whittaker. 1999. 'The Hidden Work in Virtual Work', *Proceedings of the Critical Management Conference, Manchester, 14–16 July 1999*. Manchester: Manchester School of Management.
- Secretary of State for Justice. 2007. 'The Government's Response to the House of Commons Home Affairs Select Committee Report: Young Black People and the Criminal Justice System'. London.
- Skinner, D. 2006. 'Racialised Futures: Biologism and the Changing Politics of Identity', *Social Studies of Science*, 36(3): 459–88.
- 2007. 'Groundhog Day? The Strange Case of Sociology, Science and Race', *Sociology* 41(5): 931–43.
- 2009. 'Powerful or Powerless? The Changing Public Role of the Sociology of Race and Racism', in A. Pilkington, S. Housee and K. Hylton (eds), *Race(ing) Forward: Transitions in Theorising 'Race' in Education*. Birmingham: C-SAP, pp. 243–58.
- Smart, A., R. Tutton, R. Ashcroft, P.A. Martin and G.T.H. Ellison. 2008. 'The Standardisation of Race and Ethnicity in Biomedical Science Editorial and UK Biobanks', *Social Studies of Science* 38(3): 407–23.
- Star, S.L. 1992. 'The Trojan Door: Organizations, Work and the "Open Black Box"', *Systems Practice* 5(4): 395–411.
- Suarez-Kurtz, G. 2005. 'Pharmacogenomics in Admixed Populations', *Trends in Pharmacological Sciences* 26(4): 196–201.
- Tutton, R. 2007. 'Census and the Biopolitics of Identity', *British Sociological Association Annual Conference, April 2007*. London: University of East London.
- Tutton, R. and M. Levitt. 2009. 'Health and Wealth, Law and Order: Banking DNA Against Crime and Disease', in R. Hindmarsh and B. Prainsack (eds), *Genetic Suspects: Global Governance of Forensic DNA Profiling and Databasing*. Cambridge: Cambridge University Press, pp. 85–104.
- Williams, R. and P. Johnson. 2005. 'Inclusiveness, Effectiveness and Intrusiveness: Issues in Developing Uses of DNA Profiling and Support of Criminal Investigations', *Journal of Law, Medicine and Ethics* 33(3): 545–58.
- 2008. *Genetic Policing: The Use of DNA in Criminal Investigations*. Cullompton: Willan Publishing.