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Demography and the rise, apparent fall, and resurgence of eugenics

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Demography was heavily involved in the eugenics movement of the early twentieth century but, along with most other social science disciplines, largely rejected eugenic thinking in the decades after the Second World War. Eugenic ideology never entirely deserted academia, however, and in the twenty-first century, it is re-emerging into mainstream academic discussion. This paper aims, first, to provide a reminder of demography's early links with eugenics and, second, to raise awareness of this academic resurgence of eugenic ideology. The final aim of the paper is to recommend ways to counter this resurgence: these include more active discussion of demography's eugenic past, especially when training students; greater emphasis on critical approaches in demography; and greater engagement of demographers (and other social scientists) with biologists and geneticists, in order to ensure that research which combines the biological and social sciences is rigorous.

Keywords: eugenics; demography; social biology; population control; differential-K

Introduction

I write these words on Gower Street in London, the academic birthplace of eugenics. In 1904, Francis Galton established on this street the first academic body to conduct research into eugenics: the Eugenics Record Office at University College London (UCL) (Jones 1998). In the last decades of the nineteenth century, Galton had popularized the idea that the human species could be 'improved' through selective reproduction: in other words, 'eugenics', a term he coined in 1883 (Gillham 2003). Galton believed that traits such as 'intelligence', 'good character', criminality, mental health disorders, and alcoholism were innate and passed on from parents to offspring, and so their frequency in the population could be manipulated either through 'positive' eugenics (increasing the number of children born to those deemed to have 'beneficial' traits) or through 'negative' eugenics (preventing reproduction in those with 'undesirable' traits). These ideas gained remarkable traction in Western countries, particularly early in the twentieth century: traction which was likely facilitated by the establishment of the academic study of eugenics (Björkman and Widmalm 2010).

Eugenics was integral to the development of several academic disciplines, including genetics, psychology, and demography. I suspect most twenty-first-century Western demographers are familiar, at least to some extent, with the eugenics movement and its links to demography. However, the subsequent rejection of eugenics later in the twentieth century has been so powerful in demography, and some other social sciences, that it may be underappreciated just how influential (and how very intimately tied into the origins of demography) eugenics was earlier in the twentieth century and how it has retained a foothold in some academic disciplines, in policy, and in wider public discourse. As a recent inquiry into the history of eugenics at UCL put it: 'This idea is perhaps more successful than we care and/or dare to admit: in one form or another, it has pervaded law, policy and practice in relation to immigration, family policy, welfare, healthcare, and education' (UCL 2020). In this paper, I consider links between eugenics and academic research, first by offering a reminder of how 'mainstream' eugenics was in the early twentieth century and how it influenced the field of demography (concentrating largely on the UK). I then discuss how eugenics hung on as a 'fringe' interest in

academia in the later twentieth century and use two examples to suggest that eugenic arguments may, in the twenty-first century, be emerging out of the shadows into mainstream academic discussion again. I end by proposing solutions to the dangers posed by this re-emergence.

The rise and apparent fall of eugenics

Eugenics had widespread support in the early twentieth century among those with power and influence (Searle 1998). Its success may have been due partly to its ideology appealing across the political spectrum, and not just to conservatives, who might be expected to favour ideology that could be used to support the existing political status quo. Eugenics was considered by some to be progressive, because it prioritized innate qualities and abilities and therefore could also be used to justify a meritocracy whereby those who ‘deserved’ power and influence—such as the relatively new professional middle classes—should be allowed to wield them, rather than just the aristocracy. For example, William Beveridge, one of the architects of the British welfare state, was a member of the Eugenics Society, an influential society set up in 1907 to promote eugenic ideology (it was set up as the Eugenics Education Society and changed its name in 1924; I’ll refer to it as the Eugenics Society throughout). Progressive arguments, along with the centring of motherhood in ‘positive’ eugenics, may also help to explain its appeal to women, including many feminists (Hall 1998). A woman—Sybil Gotto—was an important force in the founding of the Eugenics Society, and women formed a large proportion of its membership (around half in 1914; Hall 1998). ‘Positive’ eugenics requires encouraging the ‘right’ kind of woman to have (more) children, and the emergence of eugenics coincided with a period of rising interest in the nature and status of motherhood.

Eugenicists were successful and widespread enough to turn eugenic ideology into government policies, often focused on ‘negative’ eugenics, in many countries. Indiana has the distinction of having passed the first forcible sterilization law with eugenic aims, in 1907 (Stern 2019). This allowed the sterilization without consent of individuals with ‘undesirable’ traits, such as ‘imbecility’. Subsequently, governments in the majority of the United States (US), some Canadian states, and the Nordic countries implemented laws which together resulted in the sterilization of hundreds of thousands

of individuals, mostly women (Broberg and Roll-Hansen 1996). Eugenic ideology also infiltrated policies other than those affecting reproduction (Hansen and King 2001). Some migration policies might have been influenced by the desire to allow selective immigration only by those with ‘desirable’ qualities; this may have been one factor influencing the US Immigration Act of 1924, which restricted immigration more severely from regions of the world then considered ‘undesirable’, such as eastern and southern Europe. The UK never passed any explicitly eugenic laws—although sterilization laws were proposed and debated in Parliament—but eugenic ideology was brought to bear on a perhaps surprisingly diverse array of policies. Voluntary military service was considered by some to be ‘dysgenic’, since it was thought that the act of volunteering sprung from ‘desirable’ personality traits, but such men would be more likely to end up on the casualty lists. Some eugenicists therefore favoured conscription during the First World War (Searle 1998). Beveridge also argued that children’s allowances were ‘good eugenically’ because they would only affect fertility by influencing parents who took some thought over the number of children they produced, which necessarily displayed evidence of ‘social virtues’ (Galton Lecture 1943, published in Beveridge 2007).

The Nazi regime in Germany took eugenic policies dramatically further, ultimately not just sterilizing but murdering ‘undesirables’ in their millions. These Nazi atrocities shook the Western world into, ostensibly, rejecting eugenic thinking. After the Second World War, explicit discussion of eugenics and (new) eugenic policies began to drop out of sight in the West. Eugenics itself did not go away, however. Many of those eugenic sterilization policies remained in place until the 1960s or ‘70s, and forcible sterilizations continued into the twenty-first century for certain vulnerable groups, such as incarcerated or immigrant women in the US (Paul 2011; Fofana 2021). Nevertheless, the taint of Nazism did make (at least explicit) discussion of eugenics considerably less palatable in academia and among policymakers.

In the decades after the Second World War, academia seemed to largely turn its back on eugenics, to the extent that (most of) the social and biological sciences separated themselves entirely from one another for fear that any further discussion of the inherited nature of human characteristics might lead to another round of eugenics. The field I was trained in at postgraduate level—anthropology—had by the late twentieth century separated into a

dominant socio-cultural branch and a smaller biological branch, and there was frequently little to no contact between biological and social anthropologists. I spent my PhD years with other biological anthropologists in UCL's Darwin building, physically separated from UCL's social anthropologists, who were housed in a different building entirely.

What is eugenics?

Before discussing the relationship between eugenics and demography, I first need to define my terms. Here I define eugenics as the ideology that the human species (or national populations) can be 'improved' through selective reproduction, migration, murder, or other policies. This is a population-level definition, requiring (powerful) individuals to make judgements about whether other groups of people are 'deserving' of reproduction (or migration or life). This type of definition is one adopted by Galton, although he himself used different formulations of it (Drouard 1998), but it differs from some more recent definitions. Early in the twenty-first century, the term 'liberal eugenics' was coined to describe individual decisions about family-building that have been made possible through new reproductive and genetic technologies—for example, prenatal genetic testing for certain traits and the potential for genetic engineering of embryos—and which might influence the health or genetic composition of subsequent populations (Agar 1998). This broadened definition of eugenics has been used in two more recent papers apparently aimed at defending eugenics that were published in the philosophy journal *Monash Bioethical Review* (Anomaly 2018; Veit et al. 2021). One paper defined a eugenicist as follows: 'everyone who considers pre-natal testing justifiable, or who thinks women should be free to weigh genetic information in the selection of a spouse or a sperm donor is a eugenicist' (Veit et al. 2021, p. 62).

My own view is that to conflate individual decisions about family-building with state-sponsored policies is unhelpful. State-sponsored eugenic policies are motivated by the *intention* of 'improving' the (national) population and are necessarily underpinned by the beliefs of those in positions of power that some groups are 'worthy' of reproducing (or immigrating or living) whereas others are not. Individual family-building decisions are highly unlikely to be motivated by such population-level concerns, regardless of what *effect* such decisions might have on future populations. Nor are they necessarily

informed by beliefs about the inherent 'inferiority' or 'superiority' of certain groups. This is not to deny the role of the state in allowing (or not) its citizens to engage in genetic testing or enhancement, nor to suggest that beliefs about group 'inferiority' or 'superiority' never play a part in family-building decisions; it is very important to keep in mind how eugenic ideology might influence the implementation of laws around genetic testing and enhancement of embryos (Rutherford 2021). It is also important to consider the potential for the state or other powerful actors to coerce or manipulate supposedly 'voluntary' individual decision-making (Nandagiri this issue). But applying the blanket label of 'eugenics' to everything from an individual decision over whether to continue a pregnancy or not to state-sponsored gas chambers aimed at exterminating an entire 'race' of people muddies the waters to the extent that the label is in danger of becoming worthless.

I refer to eugenics as an ideology because, as well as its clear political motivation, it is also not based on sound science. Even early in the twentieth century, scientific concerns were raised about eugenics. As knowledge of genetics has advanced further, it has become clear that Galton's assumption—that the characteristics he and other eugenicists were interested in had a simple inherited basis—is false. Some of these traits—such as 'criminality', 'good character' or 'love of the sea'—are simply too ill-defined to have a genetic basis (Allen 2001). Others—such as 'intelligence' or certain mental health outcomes—may have some genetic basis (although not all do), but the genetics underlying such traits is highly complex (Coop 2019; Rutherford 2020). Such traits may be influenced by a large number of genes, individual genes may have multiple expressions, and some traits may also be linked genetically to other traits. None of these traits are determined simply by genes alone but are influenced by the environment (Hunter 2005). Complicating the picture of inheritance further, research on epigenetics suggests that changes in gene expression (how genotypes are turned into phenotypes, that is, observable characteristics) may be inherited from one generation to the next without any changes in the genotype itself (Berger et al. 2009). Even if it were possible to identify a simple genetic basis for a trait, humans' long generation time and relatively low fertility mean that any attempt at selective breeding will be a very slow process (which is particularly important given that the traits considered to be 'desirable' tend to change over time). All of

this means that eugenic policies will likely not have the consequences eugenicists assume will follow.

Eugenics is also about power. Eugenic policies require someone to decide which traits are ‘desirable’ and which ‘undesirable’. In practice, eugenic policies are often targeted not at individuals with ‘undesirable’ traits but at social groups deemed ‘undesirable’ by those in power. The Nazis’ genocide of the Jewish population is one example, along with their targeting of Roma. In other countries too, eugenic policies have often been targeted at marginalized ethnic groups: the highest numbers of forced sterilizations in the US have been performed on Black women (Stern 2019). In many countries, including the UK, there was a strong classist element in early-twentieth-century eugenic discussions. A common view among eugenicists was that the socio-economically disadvantaged were poor not because of circumstance or environment but because of deficits in character or intelligence and because they imprudently had too many children (Levine and Bashford 2010). Note that this means that eugenics is intended to subvert the process of natural selection. Natural selection tends to increase the frequency of any traits associated with successful reproduction. Eugenics was stimulated by the belief of powerful individuals that traits that *they*, not natural selection, valued were in danger of being selected out of the population, and so they should interfere with natural selection in order to artificially boost the frequency of traits they valued.

The targeting of ‘undesirable’ races or other social categories reveals more scientific flaws in eugenic arguments. The current scientific consensus is that there is no such thing as biological ‘race’, given that, while genetic variation exists in our species, this genetic variation does not map cleanly onto racial categories (Wagner et al. 2017; Benn Torres 2019; Van Arsdale 2019). The evolutionary biologist Richard Lewontin demonstrated that there is more genetic variation within, than between, racial categories (Lewontin 1972; Roseman 2021). Race exists as socially defined categories, and racism associated with these categories has real-world implications in terms of the health and well-being of marginalized groups, but these racial categories do not represent groups that are distinguishable genetically (AABA 2019). This is also true for socio-economically disadvantaged groups, of course — they are not a genetic ‘underclass’.

As well as being bad science, eugenics is unlikely to lead to the most effective policies. Research which has tried to disentangle the effects of genes

and environment on traits of interest to eugenicists (e.g. cognitive ability) has typically found that their heritability—the proportion of variation in a phenotypic trait which can be explained by variation in genetic factors—is relatively low (Lee et al. 2018; Bird 2021). This means that the easiest way to ‘improve’ humanity is by changing the environment, not fiddling with genes. Both nationally and globally there are substantial inequities in access to wealth, good nutrition, good healthcare, and freedom from discrimination. Levelling these inequities would do far more towards the ‘betterment’ of national and global populations than selectively choosing who can or can’t have children. Even early in the twentieth century, many scientists were critical of eugenics for exactly this reason, as this quote from Alfred Russel Wallace (the scientist who came up with the theory of natural selection alongside Charles Darwin) illustrates: ‘The world does not want the eugenicist to set it straight. Give the people good conditions, improve their environment, and all will tend towards the highest type. Eugenics is simply the meddlesome interference of an arrogant, scientific priestcraft’ (Saini 2019).

The idea that eugenics has a sound scientific basis is no longer (and perhaps never was) tenable. Eugenic policies aimed at ‘improving stock’ (Galton 1883) also involve coercion and the removal of reproductive autonomy (and other types of autonomy) from individuals who are deemed ‘unworthy’ by those in power. They involve the categorization of people into inherently ‘superior’ and ‘inferior’ groups, and history is clear about the serious human rights abuses which can follow from such categorizations. History also makes clear how subjective such categorizations are. These scientific and moral concerns should encourage considerable reflection within academia, as it looks back on its role in spreading the influence of eugenics in the twentieth century. The establishment of academic units for eugenic research lent the respectability of science to what was ultimately an exercise in politics. The next section of this paper focuses on the history of links between eugenics and the academic discipline of demography, but several other disciplines were also heavily influenced by the eugenics movement. One of those disciplines was psychology, because eugenicists have shown great interest in traits related to cognitive ability, particularly ‘intelligence’ (Yakushko 2019). Research motivated by eugenic interests has focused on developing tests to measure ‘intelligence’ and attempts to demonstrate that it differs between social groups and is associated with fertility. The

importance of cognitive abilities in eugenic research will come up repeatedly throughout this paper.

The intimate relationship between demography and eugenics

On this occasion of the 75th anniversary of *Population Studies*, it is useful to reflect on the relationship between eugenics and demography, as a reminder of how very close this relationship was in the early twentieth century. Demographic changes contributed to the emergence of widespread eugenic ideology during this period. By the early twentieth century, it was clear that fertility was declining in the UK and that this decline was more marked among socially and economically advantaged groups (Soloway 2014). This led to concerns about declines in population ‘quality’. The assumption that socio-economically advantaged groups were inherently ‘superior’ to disadvantaged groups led to fears that such ‘dysgenic’ fertility would lead to the supposedly faulty traits of the poor being spread more rapidly through the population than the higher-quality traits of the wealthy.

Just as demography affected eugenic ideology, so eugenic ideology stimulated more interest in (and more data and research on) demography, arguably leading to its rise as an academic discipline (Grebenik 1991). Eugenic interests in fertility differentials between social groups led to the expansion of civil records on fertility. Questions were introduced into the UK’s 1911 Census with the aim of investigating between-group differences in fertility, and the Population (Statistics) Act of 1938 resulted from the Eugenics Society lobbying for more detailed information, such as age of mother and parity of births, to be recorded in birth registration data (Grebenik 1991; Hobcraft 1996). The Eugenics Society also established the Population Investigation Committee (PIC) in 1936, as a research organization to work on population issues; the PIC is still in operation today and responsible for the publication of this journal. Among its other achievements, the PIC was instrumental in setting up the 1946 British National Birth Cohort study—now known as the National Survey of Health and Development—one of the world’s longest-running longitudinal studies and an important source of life course data from which much subsequent research has been produced (Pearson 2016).

The Eugenics Society was also closely associated with other emerging population associations in the interwar period. Margaret Sanger, American birth

control activist and member of the Eugenics Society, was the force behind the first World Population Conference in 1927, which led to the foundation of the International Union for the Scientific Investigation of Population Problems in 1928 (this became the International Union for the Scientific Study of Population (IUSSP) in 1947; I’ll refer to it as the IUSSP throughout) (Langford 1998). The IUSSP was a federation of national population organizations, of which the British chapter was the British Population Society, also established in 1928 (and unrelated to the British Society for Population Studies (BSPS), not founded until 1973). The IUSSP, from the start, included in its statutes the clear statement that its activities were confined to the scientific investigation of population and that it would not take a stance on political or policy issues, such as policies to increase or decrease the birth rate (which Langford (1998) suggested may have disappointed Sanger). Nevertheless, there was considerable overlap in membership between the Eugenics Society and the three population organizations: the British Population Society, the IUSSP, and the PIC. For some members, eugenics was the reason for their interest in population issues.

The IUSSP was located in London during part of the 1930s, for a time at the London School of Economics (LSE), which also largely hosted the PIC in its early days (and has done so permanently since the Second World War). LSE played an important part in the development of demography in the UK (Grebenik 1991; Hobcraft 1996). The founders and early directors of LSE, including Beatrice and Sidney Webb, William Beveridge, and Alexander Carr-Saunders, were all interested in eugenics and so in population issues. In 1930, LSE established a (short-lived) department of Social Biology, with biologist Lancelot Hogben as chair, in order to explore the role of biology in human affairs. LSE then established what was the UK’s first official academic post in demography, a readership, taken in 1938 by Robert René Kuczynski, who worked with Hogben (Schult 2020). Academics in other university posts (particularly in biology) had contributed to the study of demography but were typically not employed to work solely on demography (e.g. the chair in epidemiology and vital statistics at the London School of Hygiene & Tropical Medicine (LSHTM) covered demographic issues (Langford 1998)). Since all this population activity also needed outlets for publication, LSE also hosted two journals: *Population*, established by the IUSSP (this journal existed only during the 1930s), and then *Population Studies*, established by the PIC in

1947. David Glass, the first editor of *Population Studies*, was a member of the Eugenics Society.

From this brief history, the influence of eugenics in improving demographic data availability, raising the profile of population issues, and perhaps even establishing the academic discipline of demography in the UK should be clear. However, not all actors in this history were eugenicists. Whatever may have been intended by setting up a department of Social Biology, Grebenik argued that it was responsible for the establishment of a field of demography *independent* of eugenics (Grebenik 1991). Hogben, chair of the department, was strongly opposed to eugenics, believing the importance of the environment in determining complex human traits was too great to justify eugenic ideology. Even among those who had more faith in eugenic ideology, it's worth noting that there were often significant differences in opinion, including on how to achieve the 'betterment' of human populations; this is perhaps not surprising given the differing political views of those interested in eugenics (Soloway 1998). For example, the PIC may have been established because the officers of the Eugenics Society wanted to create a new organization with a membership they had control over (Langford 1998). The British Population Society already existed, and might have been the obvious choice for investment in a research-focused population organization, but it included some individuals with extreme political views, such as George H. L.- F. Pitt-Rivers, who was interned during the Second World War as a Nazi sympathizer, and Reginald Ruggles Gates, who held controversial views on race, believing that human 'races' should be considered different species (Roberts 1964).

Another difference in opinion among eugenicists was over the role of birth control. The promotion of voluntary birth control was viewed unfavourably by some, for example an early president of the Eugenics Society, Leonard Darwin (son of Charles). He believed this would have 'dysgenic' effects: if 'desirable' cognitive abilities such as forethought and prudence were needed to use contraception effectively, then the expansion of contraceptive services would inevitably lead to smaller families only among those with such qualities (Soloway 1998). After Darwin's tenure, the Eugenics Society did adopt much greater interest in the promotion of contraception, largely due to the efforts of Carlos (C.P.) Blacker, general secretary of the Eugenics Society between 1931 and 1952 (and father to John Blacker, a demographer at LSHTM, whose bequest to LSHTM after his death still

funds a 'Brass-Blacker' post in demography). The Eugenics Society and the UK's National Birth Control Association even formed an alliance during the 1930s (Hall 1998), although this may have been an uneasy alliance. Some early birth control activists certainly held eugenicist views: Marie Stopes was a eugenicist who set up a Society for Constructive Birth Control and Racial Progress, which supported birth control clinics in the UK and offered contraceptives referred to as 'Prorace' cervical caps (Carey 2012; Debenham 2018). Others, perhaps including Margaret Sanger (or perhaps not: Carey 2012), may have used eugenic framing more strategically to promote their interests (Hodgson and Watkins 1997; Presser 1997; Wardell 2011; Soloway 2016), while still others did not buy into eugenic ideology at all but were simply motivated by the desire to ensure women's access to contraception (Hall 1998; Rusterholz 2020).

Blacker's tenure at the Eugenics Society coincided with a difficult period for eugenicists. In the 1930s, eugenics developed negative connotations through its association with fascism in Germany, which prompted Blacker to try, unsuccessfully, to remove the word 'eugenics' from the Eugenics Society's name in 1935 (Soloway 1998). His fears about the damage that would be done to the eugenics cause by the Nazi regime were correct, and the atrocities committed by the Nazis were a significant factor in the rejection of eugenics by demography and other social science disciplines after the Second World War. This rejection did not happen overnight, which was perhaps unsurprising given the widespread support eugenics had received earlier in the century. *Population Studies* published some debate in the late 1940s and early '50s about the relationship between intelligence and fertility (e.g. Burt 1947; Giles-Bernardelli 1950). Population research also continued to be published in eugenics journals. Louis Henry's foundational work on natural fertility was published in *Eugenics Quarterly* (Henry 1961): a journal which was given this name only in 1954 by the American Eugenics Society (although the journal existed previously as *Eugenical News*) and did not remove the word 'eugenics' from its name until 1969 (when it became *Social Biology*). The Eugenics Society kept the name of its journal, the *Eugenics Review*, until 1968 (when it became the *Journal of Biosocial Science*) and did not change its own name (to the Galton Institute) until 1989; in 2021 it became the Adelphi Genetics Forum (<https://adelphigenetics.org/>).

Nevertheless, the damage done to eugenics ideology by association with Nazism, combined with

shifting interests in academia and public policy (Ramsden 2016), did result, over the next few decades, in a swing away from explicit interest in eugenics among demographers and, in fact, from interest in combining biology or genetics with population research. There were only occasional flickers of interest in reuniting biology and demography during this nadir of interest in ‘social biology’. For example, *Population Studies* published a paper in 1970—by geneticists, biologists (including John Maynard Smith), and demographers (including David Glass and William Brass)—which argued that the social sciences really needed genetics (Thoday et al. 1970). But this paper seems to have sunk without trace: Google Scholar currently records only four citations. In the 1960s the UK’s Royal Society also set up a Population Studies Group, which brought together biologists and social scientists to discuss population issues, but this commission was disbanded after eight years over fears that it might be considered politically controversial, given the association of social biology research with eugenics (Grebenik 1991). This group did have a lasting impact on British demography, however, in that several of its members founded BPS in 1973, although this Society never really recruited large numbers of biologists, which might have been the initial hope. More sustained interest in reuniting biology and demography began in the 1980s, with the efforts of social scientists and biologists such as James (Jim) Vaupel and James (Jim) Carey (Carey and Vaupel 2005; Sear 2015a). When John Hobcraft published a paper in *Population Studies* in 2006 calling for demographers to pay more attention to biology, it attracted more interest (it has so far been cited 87 times), and an Evolutionary Demography Society (www.evodemos.org/) was founded in 2013, although this society comprises largely biologists.

Echoes of the eugenics movement in the rise and apparent fall of the population control movement

The Royal Society’s Population Study Group was established because of concerns about the rapid global population growth which had happened in the decades after the Second World War (Grebenik 1991). This illustrates demography’s shift in interest during the latter half of the twentieth century towards concern with ‘overpopulation’ and the rising influence of the population control movement (Connelly 2009). The population control debate

effectively extends back to Thomas Malthus’ eighteenth-century fears that human populations have an inevitable tendency to outgrow their resource base, but it really rose to prominence in the mid-to-late twentieth century (Caldwell 1996). Eugenics and the population control movement share similar characteristics, although they were stimulated by different population ‘problems’. The ‘problem’ that boosted the popularity of eugenics was the decline in fertility of socially advantaged groups. In contrast, the ‘problem’ that the population control movement focuses on is ‘overpopulation’: the fear that the earth cannot sustain a very large human population (Ehrlich and Ehrlich 1991). Eugenic policies were enacted at the national level, but the population control movement requires international action, proposing that the cross-national solution to ‘overpopulation’ is to restrict fertility in high-fertility countries, which are typically those of lower income. There is, however, obvious overlap between the two movements. Both are focused on population-level ‘problems’: a focus which may obscure individual human rights. Both also typically involve wealthy (often White) individuals removing reproductive autonomy from poorer (often Black and Brown) populations. In other words, the fundamental ideology that underlies eugenics—the assumption that certain social groups are inherently ‘superior’ to others—is also present in the population control movement.

Like eugenics, the population control movement achieved widespread support in the mid-to-late twentieth century among policymakers and academics, including demographers (Connelly 2009). As with the eugenics movement, demographers again benefited from this political interest in population. The population control movement stimulated demographic data collection and research, and resulted in the promotion of family planning services. The World Fertility Surveys (which became the Demographic and Health Surveys) were established because of interest in contraception and fertility, to collect data on these topics in contexts where they were lacking (Lightbourne et al. 1982). Despite its similarities with eugenics, the population control movement may have been more palatable during this period because it tends not to make explicit arguments about the genetic ‘inferiority’ of social groups. Nevertheless, the population control movement always had its critics, more so, in fact, among social than biological scientists. Social scientists such as economists Ester Boserup (1965) and Julian Simon (1981) had sufficient faith in people that they argued that human ingenuity would

always find solutions to any problems of ‘overpopulation’. More recently, others have argued that the solution to ‘overpopulation’ is to rein in the consumption of the rich and not the reproduction of the poor (Dorling 2013).

In the last decades of the twentieth century, the population control movement began to lose momentum: partly because global population growth began to slow and partly because the dramatic claims about the imminent starvation of large parts of the global population had not come to pass, but also because of the human rights abuses associated with population control. Like eugenics, population control involves coercive policies which aim to circumvent individuals’ rights to choose whether to use contraception or not, culminating in forced sterilizations in some cases, such as in Indira Gandhi’s India (Connelly 2006). As a result, there was a paradigm shift in the 1990s (though perhaps more apparent in language than practice), from a global focus on population control towards ensuring reproductive rights: contraception and reproductive health services were to be made available because all individuals have the right to make decisions about their family size and structure, not because someone else has determined that there are too many people on the planet (Petchesky 1995). Coercion, however, has not yet gone away in family planning programmes (Sasser 2018; Senderowicz 2019; Nandagiri this issue). ‘Overpopulation’ arguments, too, are beginning to resurface, this time justified with concerns not about whether we can ‘feed the world’ but about anthropogenic environmental degradation and climate change, alongside fears that the Global North may be ‘swamped’ with migrants from the ‘overpopulated’ Global South. A recent paper, co-signed by thousands of researchers—though few demographers, perhaps because they are more aware than most of the human rights abuses associated with population control (van Dalen and Henkens 2021)—highlighted the dangers of climate change and proposed population control as one solution (Ripple et al. 2021).

There are clear echoes of the eugenics movement in the rise and apparent fall of the population control movement during the second half of the twentieth century. This is likely to be because both are underpinned by similar ideas—that some social groups are inherently ‘superior’ and others ‘inferior’—which existed long before Galton and which continue to exist even without explicit eugenic underpinning. The tenacity of these ideas likely helps to explain the resurgence of both eugenic arguments and ‘overpopulation’ concerns in the twenty-first century.

The resurgence of eugenics in mainstream academic discussion

Despite eugenic research having dropped out of demography journals during the later twentieth century, eugenic thinking and practices never went away. Eugenic sterilization policies remained in place until startlingly recently: for example, until 1996 in Japan and the 1970s in the US and Sweden (Drouard 1998; Amy and Rowlands 2018). Policies aimed at encouraging socially advantaged groups of women, such as the highly educated, to have more children have been implemented in South Korea and Singapore in the late twentieth and early twenty-first centuries (Amrith et al. 2010). Immigration policies may still be influenced by eugenic thought. Just as a switch in language from ‘population control’ to ‘reproductive rights’ may have concealed a continued population control agenda, it may be that the terminology of ‘eugenics’ among policymakers fell in popularity after the Second World War without much change in practice. This is likely to be true to some extent in academia, too; certainly, some of the underlying principles of eugenics, such as implicit assumptions about the ‘superiority’ or ‘inferiority’ of different groups can still be seen throughout the social sciences. However, explicit discussion of eugenics and discussion of *genetically determined* group differences in traits that are still often considered ‘desirable’, such as ‘intelligence’, have largely moved to the fringes of academia, although they always maintained a foothold there.

By the late 1950s and ‘60s, journals which had previously existed to publish research on eugenics were shifting focus and changing their names, but there were still academics from various disciplines who took steps to ensure eugenic ideas were kept alive. The journal *Mankind Quarterly* was set up in 1960 to provide an outlet for eugenicist research by a group of psychologists, anthropologists, biologists, and statisticians, including Reginald Ruggles Gates and also Corrado Gini of the Gini coefficient (Jackson 2005). Gini, incidentally, had fallen out with the IUSSP in the interwar period, when the society’s plans to hold a conference in Rome under his organization fell through; the reason may partly have been concerns over his fascist sympathies (Langford 1998). *Mankind Quarterly* was funded by the US-based Pioneer Fund, which was established in 1937 to support the study and promotion of ‘race betterment’ (Tucker 2001; Kenny 2002). The Fund was endowed by a bequest from Wickliffe

Preston Draper, who had previously shown interest in funding eugenic research within academia, and one of its founders was Henry (Harry) Laughlin, the architect of some of the US forcible sterilization laws which later influenced the Nazis' eugenic policies.

The Pioneer Fund also provided grants to academic researchers (particularly, but not only, in psychology) and continued to do so until 2018. The type of research funded was often that which could be used to promote eugenic arguments, for example, research on inherited group differences in traits such as 'intelligence'. *The Bell Curve* (Murray and Herrnstein 1994), a highly controversial book, which claimed that there are innate racial differences in 'intelligence' in the US and that policy implications should follow from this, drew heavily on Pioneer-funded research (Kenny 2002). The publication of this book and the controversy which followed—with many academics pointing out the flawed nature of the research it was based on—illustrate how eugenic ideology did not go away after the Second World War but also that it had considerably less mainstream support at the end of the twentieth century compared with the beginning (Richards 2005).

Moving into the twenty-first century, a psychologist at the University of Arizona, the last academic recipient of a Pioneer Fund grant (Flaherty 2018), used the funds partly to attend the 2017 London Conference on Intelligence, one of a series organized at UCL by an honorary lecturer and attended by several researchers with academic affiliations (Woodley of Menie et al. 2018). After concerns were raised about the content of these meetings (Daley 2018), UCL conducted an enquiry, which observed that several presentations included discussion of group differences, including 'race', sex, and migrant-status differences in 'intelligence', discussion of genetically determined group differences, and explicit discussion of eugenics (UCL 2018). The 2016 conference included the following quote on the front page of its book of abstracts: 'Selective breeding can alter man's capacity to learn, to keep sane, to cherish justice or to be happy. There is no more certain and economical a way to improve man's environment as to improve his nature' (E. L. Thorndike, quoted in UCL 2016, p. 1). One person interviewed for the enquiry had viewed videos of some of the talks and 'was of the view that they had no scientific or rational basis and they were edited in such a way that they could incite racial hatred' (UCL 2018). These conferences provide more evidence of the foothold research on

eugenic themes has maintained in academia. The controversy surrounding these conferences might suggest that it is still a fringe activity, regarded with considerable concern in mainstream academia. However, attendees at these conferences have defended their content, arguing that many presentations involved research which had been published in mainstream academic literature (Woodley of Menie et al. 2018).

Whether you now consider research on eugenic themes to be mainstream or fringe might depend on your discipline. The psychologist Andrew Winston, who has researched 'scientific racism'—'the use of scientific concepts and data to create and justify ideas of an enduring, biologically based hierarchy' (Winston 2020a, p. 2)—does refer to this type of research as 'mainstream' in psychology (see also the recent statement from the American Psychological Association (APA) acknowledging psychology's role in perpetuating beliefs in racial hierarchy; APA (2021)). Winston is also of the view that scientific racism goes hand in hand with a 'vision for a "progressive" transformation of society, one in which a natural hierarchy is understood' (Winston 2020b, p. 428): a political, policy-oriented agenda or, in other words, eugenics. In contrast, two demographers wrote recently that 'no self-respecting academic would argue that there are marked differences in the population separating the weak from the strong in terms of mental ability which are passed on genetically to the next generation'. I have kept this quote deliberately anonymous as I suspect those authors were expressing the views of many social scientists outside psychology, who are unaware that papers which argue just that continue to be published in academic journals. Or they might at least consider anyone publishing such research not to be a 'self-respecting academic' and therefore to be on the fringe of academia. The next sections of this paper aim to draw work on eugenic themes in academia to the attention of demographers, and other social scientists, by providing two examples.

Illustrating the mainstreaming of eugenic ideology part I: The case of 'national IQ' data sets

As a lecturer at LSE about 15 years ago, a colleague and I proposed a new MSc on Evolutionary Social Science. During its review, one staff member commented 'this sounds like eugenics': a comment I found very frustrating as, with the ignorance of

(relative) youth, I assumed that eugenics had been relegated to a history lesson by the early twenty-first century. Shortly afterwards, I came across a data set which purports to provide the ‘national IQ’ of nations worldwide and which was instrumental in changing my opinion. The data set had been used in a journal publication to make a demographic argument, that people in higher-income countries live longer than those in lower- and middle-income countries (LMICs) not because they are wealthier but because they are more intelligent: ‘*each additional point in mean IQ of a population increases the female life expectancy at birth by more than a year!*’ (italics and exclamation mark used in the original; Kanazawa 2006, p. 628). This rather startling argument attracted six critical commentaries (Alemayehu and Sineshaw 2007; Der 2007; Ellison 2007; Marks 2007; Wilkinson and Pickett 2007), including one I co-authored (Dickins et al. 2007). For that critique, we investigated the ‘national IQ’ data set. What we found was concerning. According to this data set, IQs in many LMICs were remarkably low. Several average IQs were reported to be below 70, for example, which would imply that the populations of these countries are, on average, intellectually impaired: an IQ of 70–75 is used as the cut-off to identify intellectual disability (APA 2013).

On examining the data set closely to find out why some countries’ IQs were reported to be so absurdly low, we found it was riddled with flaws, not least in its sampling strategy. The data set was based on a diverse range of published studies which had produced data on cognitive tests; from these primary sources, average ‘national IQs’ had been calculated. As is common in psychology, many of these primary sources relied on small samples, and many used convenience samples, selected because they were available; other samples were selected because researchers wanted to examine the cognitive ability of particular groups of individuals (e.g. migrants, those from a particular ethnic group or with a particular condition, etc.). None of these samples will be even close to being representative of the national population. As an example, the ‘national IQ’ of Ethiopia was calculated to be the implausibly low figure of 63, yet this was based on cognitive test scores from a single sample of 250 people, all 15-year-old immigrants to Israel (Kaniel and Fisherman 1991). Authors of several of these primary sources, including this Ethiopian example, had explicitly cautioned that their cognitive test results should not be compared with other samples or populations. It is clear from reading these primary sources, in fact, that it is impossible to generate a data set with

comparable data on ‘intelligence’ from all national populations. Results of cognitive tests will be affected by a wide range of factors (e.g. access to formal schooling) which vary substantially cross-culturally; such tests were developed in Western settings and it is simply not plausible that they will measure the same underlying construct of ‘intelligence’ in all communities worldwide (Wicherts, Dolan et al. 2010; Duckworth et al. 2011; Anum 2014; Dramé and Ferguson 2019).

Despite the many published critiques of this data set and its flaws (e.g. Volken 2003; Wicherts, Borsboom et al. 2010; Ebbesen 2020), it remains publicly available for download in an updated version (https://viewoniq.org/?page_id=9). I’ve examined the latest (2019) version and the flaws I have described remain (see the European Human Behaviour and Evolution Association’s public statement of concern about this data set: EHBEA 2020). The data set still reports implausibly low ‘national IQs’ for many countries: the average IQ for the continent of sub-Saharan Africa is 70 in this version. The data set is still compiled largely from small, unrepresentative samples: ‘national IQs’ for 20 countries are calculated from samples of <200 individuals (e.g. Angola’s ‘national IQ’ is calculated from a sample of 19 individuals, about whom the only thing we know is that they did not have malaria); around two-thirds of samples include only children; and the authors’ own categorizations of samples suggest that only one-third can be considered ‘national’ (which they define as ‘individuals originated from all or a large part of the country’s total area which spans across more than only a single county, municipality, governmental area’ (Lynn and Becker 2019, p. 13)). Data are still included from primary sources which explicitly state that their data cannot be used in comparative work (Boivin and Giordani 1993; Alderman et al. 2014; Anum 2014). Given that the sampling problems are more severe in some regions than others, particularly in lower-income countries, the data set is also systematically biased.

So the data set does not provide accurate and unbiased data on cognitive ability worldwide; yet, it has been influential. The authors of the original version of the data set—Richard Lynn and Tatu Vanhanen—first described it in their 2002 book, *IQ and the Wealth of Nations* (Lynn and Vanhanen 2002): a book which had been cited 1,017 times by 29 October 2021 according to Google Scholar. These citations have accumulated despite the increasingly explicit eugenic arguments which the data set has been used to support. In *IQ and the Wealth of*

Nations, Lynn and Vanhanen made the claim that LMICs are less economically developed than higher-income countries because their populations are genetically less intelligent than those in higher-income countries. In subsequent publications, Lynn has used these ‘national IQ’ data to argue that race and skin pigmentation are associated with ‘intelligence’, with lower IQs in Black populations (Lynn 2006; Lynn and Meisenberg 2010). In the publication describing the most recent version of this data set, *The Intelligence of Nations*, Lynn and his new co-author, David Becker, are quite explicit that these data should be used to inform eugenic policies (Lynn and Becker 2019). The final chapter of *The Intelligence of Nations* discusses the potential implications of this data set for ‘positive’ eugenics and ‘negative’ eugenics, without any consideration of the flawed science underlying eugenic policies nor of the history of, and potential for, human rights abuses associated with such policies. It may come as little comfort that the authors are somewhat pessimistic about the possibility of actually implementing some eugenic policies, as they write: ‘it seems unlikely much can be done to increase fertility among women who have been educated out of their reproductive function’ (Lynn and Becker 2019, p. 334).

Richard Lynn may now be considered a fringe figure in academia. He held an academic post at Ulster University until his retirement, but has recently had his emeritus status removed by that university over concerns about his views (BBC News 2018); he is also currently editor-in-chief of *Mankind Quarterly* and has received financial support from, and acted as director of, the Pioneer Fund. But the data set itself has been widely used by other researchers, in over 100 academic publications. While some of these are in fringe journals, such as *Mankind Quarterly* (e.g. Kirkegaard 2013; Koljevic 2020), research using the data set has also appeared in journals published by mainstream academic publishers, for example in *Intelligence* (Barber 2005; Shatz 2008) and *Personality and Individual Differences* (Meisenberg 2012), both Elsevier journals, and in *Evolutionary Psychological Science* (Figueredo et al. 2020), a Springer journal, as well as in mainstream journals which demographers may have published in, such as the *Journal of Biosocial Science* (Kanazawa 2009). The data set was also used in a Harvard PhD thesis to argue for restricted immigration into the US from countries with a ‘low IQ’ (Richwine 2009), by a researcher who was appointed to a US government post in 2018 (Mervis 2020). In their book, Lynn and Becker (2019, p. 10) wrote: ‘in the course of twelve years

my [*sic*] national IQs had made the transition from “technically inadequate ... and meaningless” to mainstream acceptance’. While such a statement may be influenced by both wishful thinking and a desire to convince others of its validity, the publication of so many papers in mainstream journals—which will have involved a large number of researchers, not just as authors but as peer reviewers and editors—does support this claim. Regardless of whether these researchers are actively trying to promote eugenic thinking or whether they have simply not examined the data set closely enough to be aware of its flaws, publications in mainstream academic journals lend scientific credibility to a (deeply flawed) data set which promotes the idea of a genetically determined racial hierarchy.

Illustrating the mainstreaming of eugenic ideology part II: The case of differential-K theory

In the 1990s, the psychologist J. Philippe Rushton developed ‘differential-K’ theory which rank-ordered three human ‘races’ (Black, White, and Asian) along a continuum (Rushton 1995). He drew on language from evolutionary biologists, who had observed that particular growth and demographic rates tended to cluster together in different species and seemed to co-vary with the population density of those species, with different species referred to as ‘r-selected’ and ‘K-selected’ species (MacArthur and Wilson 1967). Rushton used this language to claim that human ‘races’ showed clustering of a very wide range of traits, including cognitive and behavioural traits, and that this clustering could be placed on a continuum, with the Black ‘race’ at the ‘r’ end of the continuum and the White and Asian ‘races’ at the ‘K’ end. According to this theory, the Black ‘race’ is less intelligent, more aggressive, and less law-abiding than the White or Asian ‘races’ and Black men have larger penises (Rushton 1990). White and Asian ‘races’, Rushton claimed, evolved a different cluster of traits, including greater ‘intelligence’, because they had to deal with ‘cold winters’ after *Homo sapiens* migrated out of Africa, and such hardships created a different set of selection pressures to those experienced by the Black ‘race’, still living in sunny Africa. Clearly, this theory appears to owe far more to racist narratives developed to justify slavery than to evolutionary biology. The evolutionary justification for this theory is deeply flawed on multiple counts, not least because ‘races’ are not genetically distinct,

and Rushton's work has been extensively critiqued on scientific grounds (Zuckerman and Brody 1988; Cain and Vanderwolf 1990; Cernovsky 1990; Anderson 1991; Allen et al. 1992; Kamin 2006).

Like Lynn, Rushton could also be described as a fringe figure in academia. He was funded by and acted as director of the Pioneer Fund, and when as a graduate student I first became aware of his work, I also became aware of his reputation as a 'crank' from those academics I respected; he was regarded not as a rigorous scientist but someone producing poor-quality work with the apparent aim of promoting a political agenda. I therefore assumed that his work would gain little traction. But despite his lack of scientific rigour, he was nevertheless employed as an academic psychologist and one who promoted his work widely: I was one of many individuals who were mailed a copy of his book on differential-K theory, *Race, Evolution and Behavior*, in the late 1990s (Rushton 1995), a mailing sponsored by the Pioneer Fund. His work was published in several mainstream journals, and he was given the opportunity to present his work at academic conferences. I was once surprised to see him presenting a poster at a Human Behavior and Evolution Society conference I attended while a graduate student: surprised, because at that time I assumed that academic conferences exerted quality control over who was given presentation slots, although a senior figure in that Society subsequently told me he did not believe the Society should make quality judgements about its members' work. This reluctance to engage in criticism of poor-quality work seems to characterize some sections of the evolutionary social sciences and likely helped Rushton's work gain considerable traction: as of 29 October 2021, Rushton's h-index on Google Scholar was 77 and his work had attracted 21,834 citations.

Building on earlier critiques of his work, there has been some recent recognition that Rushton's work is highly problematic: since 2020, six of his papers have been retracted from two psychology journals for their scientific flaws and their promotion of a racist agenda (SAGE journals 2020, 2021; Elsevier 2021). Last year, the academic department he worked in at the University of Western Ontario in Canada, until his death in 2012, took the unusual step of producing a statement rejecting the scientific validity of his work (Department of Psychology 2020). Unfortunately, Rushton's differential-K theory seems likely to thrive in the mainstream literature for some time to come, because it has been given a new name (Sear 2020). Life history theory is a framework developed in evolutionary biology about how energy

is allocated over an individual's life course to the life history traits of growth, reproduction, and survival (Stearns 1992). It has been used successfully in biology to understand growth and demographic processes in non-human species (Stearns 2000) and has also been incorporated into evolutionary anthropology, medicine, and public health (Hill and Hurtado 1996; Wells et al. 2017). But a group of evolutionary psychologists (including the last academic recipient of a Pioneer Fund grant) have used the name 'life history theory' for what is effectively a re-imagining of Rushton's differential-K theory (Figueredo et al. 2004, 2014). Their 'psychometric approach to life history strategy' assumes that all humans can be lined up along a single, genetically inherited continuum of 'life history strategies' (the 'K-factor'), which encompasses a wide range of behavioural and cognitive traits, including cooperativeness, sexual behaviour, and 'intelligence'. This approach bears little resemblance to life history theory in evolutionary biology, which focuses exclusively on explaining growth, reproduction, and survival and does not include behavioural or cognitive traits; nor does life history theory assume that within-species variation in life history patterns is genetically inherited (Sear 2020; Stearns and Rodrigues 2020).

This new version of differential-K theory has become popular and widely published in psychology and the evolutionary social sciences, and it is beginning to appear in journals outside these disciplines, for example *PNAS* (Maner et al. 2017) and *PeerJ* (Manson 2018). So far, the approach has more often been applied to explain variation in so-called 'life history strategy' between social classes (and not race differences in 'life history strategy'; but see Figueredo et al. 2020). A common assumption in this literature is that people living in 'harsh' environments—often operationalized as the socio-economically disadvantaged—are 'fast' life history strategists, equating to the 'r' end of Rushton's differential-K continuum. 'Fast' life history strategies supposedly involve 'promiscuous' sexual behaviour and low cooperativeness (Figueredo et al. 2006), 'dark triad' (antisocial) personality traits (Jonason and Tost 2010), reduced cognitive 'executive function' (Figueredo and Jacobs 2011), and lower 'intelligence' (Dunkel et al. 2021). It is not difficult to see how such research could be used to promote political narratives about the genetic 'inferiority' of socio-economically disadvantaged groups. Using the terminology of life history theory—a standard biological theory—for an approach which instead involves the assumption that social groups can be rank-ordered along an inherited continuum of cognitive

and behavioural traits, including ‘intelligence’, effectively mainstreams such eugenic ideology (whether or not that is the intention of the many researchers who have now used the psychometric approach to life history strategy). Again, this example illustrates how deeply flawed work which uses the language of science to justify innate hierarchies of social groups is far from eradicated in the mainstream academic literature.

What can be done to counter the resurgence of eugenic thinking in the academic literature?

My first recommendation is that demographers and other social scientists should engage more with genetic and biological researchers, and vice versa. The lack of interaction between the social and biological sciences may well be part of the reason for the resurgence of eugenic ideas in mainstream academia. This lack of integration can partly be blamed on academic structures which actively discourage interdisciplinary research, to the detriment of all research. But it is also at least partly influenced by the reluctance of both sides to engage with the other, for reasons beyond the structure of academia. Many social scientists, including some in demography, largely rejected not just eugenic thinking but pretty much all discussion of genetic or biological explanations in the social sciences in the decades after the Second World War, at least partly because of the taint of eugenics: ‘Our shared disciplinary [social science] immune systems recognize biological explanation of behaviour as an infection, and reject it’ (Udry 1999, p. 911).

Many biologists, too, steered clear of engaging with social science, for similar reasons, at least until the new discipline of sociobiology—which involves the assumption that behaviour evolves just as physiology does—emerged in the 1970s (Wilson 1975; Segerstrale 2000). The evolutionary social sciences, which assume that a full understanding of our species requires input from biological research, have since grown to be an established, if small, part of academia. Unfortunately, a sizeable branch of this field has proved reluctant to engage with the (non-evolutionary) social sciences. An influential school of thought established in the 1990s, known as the Santa Barbara school of Evolutionary Psychology (Laland and Brown 2002), views the social sciences as having ‘profoundly misleading’ theoretical underpinnings, based on a ‘blank slate’ model of the human mind (Tooby and Cosmides 1992, p. 23).

This mutual rejection of biology by (many) social scientists, and of social science by (many) evolutionary scientists, may have facilitated the resurgence in eugenic ideology by allowing disciplinary silos of poor-quality, sometimes explicitly politically motivated, research to develop, in which many assumptions were not thoroughly examined or critiqued. Greater integration across disciplines would help to expose researchers to a range of different viewpoints and prevent the emergence of pockets of research in which it is possible to believe impossible things, such as the population of an entire continent being, on average, on the verge of intellectual disability. Advances in genetics in the late twentieth and twenty-first centuries have the potential to improve our understanding of how genes, epigenetics, and the environment interact to produce complex human traits. They also have the potential to be misused to promote political ideologies. To counter the threat of resurging ‘scientific’ justification for innate hierarchies of social groups, the social and biological sciences are stronger together.

Demography is a social science in which there has been growing, if still small, interest in incorporating biology and genetics (Carey and Vaupel 2005; Hocrift 2006; Sear 2015b; Mills et al. 2018; Herd et al. 2021). So this recommendation is really a call to continue and expand this work that crosses the biological and social science divide, including making further efforts to incorporate biology into demographic training programmes. Just as one example, life history theory (from evolutionary biology) is a useful theoretical framework which can help to improve understanding of human demography and health (Gibson and Lawson 2014; Wells et al. 2017; Mattison and Shenk *forthcoming*). It is very compatible with social science research, as it has been used to inform research on how environmental variation induces behavioural differences, with associated consequences for demographic outcomes (Nettle et al. 2013). In higher-income contexts, such research can help to explain why health inequalities exist: research, incidentally, which shows how cognition responds flexibly to the environment, providing more evidence against assuming that the same cognitive traits can be easily measured across different contexts (Pepper and Nettle 2017; Frankenhuus and Nettle 2020; Sheehy-Skeffington 2020). In lower-income contexts, such research has the potential to help inform development initiatives and has been used to explain some unintended demographic consequences of development interventions (Gibson and Mace 2006; Gibson and Lawson 2014).

My second recommendation is that demography should incorporate more critical approaches. By ‘critical’ I mean two things. First, we need to examine more closely any research which uses demography, including that published in other disciplines. Many poor-quality papers succeed in being published in mainstream academic journals. When these papers reinforce social hierarchies or explicitly promote eugenic ideology, this gives a sheen of scientific respectability to such work. The second meaning of ‘critical’ is that used in several papers in this special issue: to consider how bias, politics, and power influence the production of demographic research. While explicit promotion of eugenic ideology is, hopefully, the preserve of a relatively small number of academics, many others may help to facilitate the spread of this ideology by not sufficiently interrogating their own biases. Sigle’s paper in this issue makes an excellent case for why the discipline will be improved by greater interest in how demographic data and research are produced, who produces them, and why; Nandagiri’s and Graham’s papers emphasize similar points. Such a critical approach is clearly highly relevant when it comes to research which—consciously or unconsciously—aims to promote ideas about the inherent ‘superiority’ or ‘inferiority’ of social groups.

My final recommendation is that demographers should engage in more active discussion about demography’s eugenic past and how elements of eugenic ideology (e.g. beliefs in the inherent ‘superiority’ or ‘inferiority’ of certain groups, even if explicit discussion of genes is absent) might linger on in contemporary demography. We need to understand the past in order to stop repeating the same mistakes in the present (see also Reid, this issue), particularly as academic research builds incrementally on what has gone before (Sigle, this issue). Yet discussion of eugenic ideology does not take up much space in demographic training or journals. A detailed early history of demography in the UK was published in *Population Studies* by Eugene Grebenik, the second editor of the journal (Grebenik 1991), who preferred the nickname ‘Grebby’, because of his dislike of the echoes of eugenics in the name Eugene (Hobcraft 2002). But this paper seems to have been curiously neglected, having attracted only 29 citations by 29 October 2021, according to Google Scholar. While citations don’t necessarily track readership, the lack of citations might suggest that (British) demographers are not particularly prone to reflecting on their history. There is considerable scholarship, largely produced by historians, on the history of eugenics and its influence on demography (including after the Second World War), which could be drawn on to facilitate

such reflection. In crossing disciplinary boundaries, we should incorporate the humanities as well as the biological and social sciences.

Conclusion

In 2019, demographer Lesley Root wrote a paper in the *Washington Post* with the headline ‘Racist terrorists are obsessed with demographics. Let’s not give them talking points’ (Root 2019). The aim of my paper is to make a similar point: given the great political and personal significance of demography, demographers should be aware of, and should critically reflect on, how demographic research is produced and used, even beyond the confines of their own discipline: in other areas of academia and in wider policy and public discussions. Recommendations for reducing the possibility of the misuse of demography include continuing and extending engagement between demography and other disciplines, particularly biological disciplines. Greater attention should be given to the eugenic roots of demography: in teaching, but perhaps also in other arenas, such as conferences and publications. Greater attention should also be given to how we might actively strive to avoid repeating those mistakes again: for example, taking a more critical approach to demography, re-evaluating the assumptions used in demographic research, and training students to think critically, not just about the methodological quality of research but about who produces demographic data and research and about what biases might be involved in their production.

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