

The past did not go away

Research on genes and IQ and why it must be stopped

1. Introduction

Early in 2013 Chinese and American scientists announced that they plan to reveal the results of research identifying specific genes that influence IQ¹. In October 2013 a row broke out in the UK media about a leaked document from a DfE adviser, Dominic Cumming which endorses this kind of research and would use its results to shape UK education policy². In the same month, Robert Plomin, the scientist at the centre of all this research, published a book advocating using the results of 'IQ gene' testing to tailor children's education to their genetic makeup.

This research is the culmination of a right-wing, racist and eugenic agenda that stretches back 100 years. Nothing could be more socially harmful: if the scientists identify such genes, the first inevitable use of this information will be attempts to show that certain racial groups are genetically inferior to others. Other extremely harmful consequences will be the use of genetic tests to stream children for education from birth and eventually to select embryos to produce children with high IQ. Steven Hsu, who started the Chinese project, approvingly quotes British eugenicist Ronald Fisher in his presentations³, which include plans for a eugenic breeding scheme using embryo selection to improve the overall IQ of the population.

Robert Plomin, has been attempting to find 'IQ genes' since the 1970s. Up till now it has been extremely difficult to identify any such genes, partly because the science behind the idea of 'IQ genes' is very questionable (see below). However, Plomin has now linked up with the worlds leading genome sequencing factory, BGI⁴, based in Shenzhen, China and plans to sequence the genomes of over 2000 people with very high IQs.

The eugenic agenda that drives this research has always sought evidence of racial differences in IQ and has always tried to influence social policy with these claims. We are not trying to stop the research just because it might produce something socially harmful: the research itself and the whole agenda that drives it is an expression of the worst tendencies in human societies and should never have been allowed to start. There is no medical benefit from such research.

2. The political science of 'IQ genes'

The history of research into genetics and IQ is inextricably linked to racism and eugenics. The development of the IQ test was carried out by American eugenicists in the first part of the 20th century, for the purpose of first identifying and then sterilising people of low intelligence, who were thought to be unfit to breed⁵. From its beginning, IQ testing was used to stigmatise and exclude certain ethnic groups in the USA, particularly African Americans, but also immigrants from Eastern and Southern Europe.

Eugenicists have always tended to emphasise the role of genes in determining human characteristics, which is known as genetic determinism. This has underpinned their arguments that society must be protected from people with 'bad genes', who will always behave badly and be a burden on society, by preventing their birth. This emphasis upon genes has tended to align eugenics with the general right-wing political belief that some people are inherently doomed to a subordinate position in society and right-wing American

organisations have always argued that 'science shows that black people are genetically inferior in intelligence'.

In 1969, Harvard psychologist Arthur Jensen published a notorious article⁶ arguing that African Americans' lower IQ scores were due not to racism and poverty but to genetic causes and it was therefore a waste of public funds to try to improve their academic achievement through educational programmes targeted at those communities. Jensen, like many other IQ researchers, was a member of the American Eugenics Society (AES) as well as its British counterpart and received funding from the far-right wing Pioneer Fund, which also funded a variety of American extremist organisations. Other IQ researchers, such as British psychologist Raymond Cattell, were closely associated with the ultra-right eugenicist journal *Mankind Quarterly*.

The historical associations of IQ testing and behavioural genetics with eugenics, racism and right wing politics are not in dispute by anyone. The question is whether the field has now repudiated these associations and whether Robert Plomin as its acknowledged leading representative, and his colleagues, have done so. Sadly, they have not.

In the 1990s these claims about the genetic inferiority of African Americans surfaced again in the best-selling book, *The Bell Curve*, which again created a national furore in the US. Robert Plomin was a key signatory to a statement, which was drafted by Pioneer Fund Grant recipient Linda Gottfredson, defending the science behind *The Bell Curve*. Although this statement did not openly endorse claims about African Americans' 'genetic inferiority', and many IQ researchers vehemently deny that they are racist, the statement was also signed by a number of self-proclaimed scientific racists, such as Philippe Rushton and Richard Lynn⁷. Plomin has published 2 papers in the AES journal *Social Biology* and spoken at meetings of the British Eugenics Society (renamed the Galton Institute in 1989). According to a policy of 'crypto-eugenics', these societies attempted to re-constitute themselves as ostensibly purely academic institutions, devoted to the study of, rather than advocacy for eugenics, in the 1960s. That the Eugenics Society's fundamental nature has not changed was exposed at the 1999 annual conference of the Galton Institute, which was addressed by Jensen and Glayde Whitney, a former President of the Behavior Genetics Association who was removed from the post following racist remarks about African Americans and his writing of a supportive foreword to a book by David Duke, former leader of the Ku Klux Klan. The conference was disrupted by the anti-racist group People Against Eugenics.

Robert Plomin is based at the Institute of Psychiatry at the Maudsley hospital in south London, which has always been one of the central institutions of eugenics in Britain, contributing many members to the British Eugenics Society, including its secretary for 20 years, Dr CP Blacker. Amongst these were Hans Eysenck, another Pioneer Fund grant recipient, whose views on genetics, race and IQ strongly influenced those of his student, Arthur Jensen, and Elliott Slater who studied with Ernst Rudin, the architect of the Nazi eugenics programme. The Institute has never publicly disavowed its eugenic past. In the current project there is a further disturbing link to the eugenic past: the samples which Robert Plomin supplied for sequencing in China largely come from students from a summer school for gifted mathematicians held at Vanderbilt University, built by Cornelius Vanderbilt, who like the other tycoons of his period, such as Rockefeller, Carnegie and Ford donated large sums of money to the eugenics cause. The other source for the samples is students in China's elite mathematics and science academies.

The collaboration of Robert Plomin with China is a continuation of these eugenic links. In 1995 the Chinese government introduced a Eugenics Law, similar to US and German eugenic legislation of the 1920s and 30s, which now applies to 1.2 billion people. After some Western protest, the name of the law was changed to Maternal and Infant Healthcare Law. The law requires couples planning to marry to undergo health checks for hereditary diseases and requires the couple to be sterilised if they are present and still wish to marry. If a genetic disease is detected during pregnancy, abortion is effectively mandatory. Whilst implementation of pre-marital sterilisation appears to have been abandoned in 2003, the coercive abortion articles are still in force. It should be noted that Chinese eugenics does not appear to have the overtly racist character of 20th century Western eugenics, and the measures were justified by the inability of China, still a developing country with poor rural healthcare systems to deal with the needs of disabled children. However, current developments including the BGI genome sequencing project cast a new light on Chinese policy: the collaboration of BGI with Robert Plomin is an example of China's drive to overtake the West in high technology fields like biotechnology, and it seems that China wishes to exploit its abundant human resources to create a high IQ/high tech elite which will enable it to succeed in this competition. As noted above Steven Hsu, Plomin's collaborator on the project has openly advocated eugenics breeding programmes. Dominic Cummings clearly favours this strategy for Britain; of course, this is precisely what all the European countries were trying to achieve in the heyday of eugenics – to overcome their imperialist competitors by improving the 'national stock'.

Ironically, such elitist strategies, which typically are attractive to right-wing governments such as the current British government are likely to fail even in their own terms. Countries with more egalitarian social structures are not only happier (as the book *The Spirit Level* demonstrated), they also have higher average IQs.

3. Some basic facts about genetics and IQ

The issue of the relationship between genes and intelligence is very complex and we cannot do it full justice here. A fundamental question is whether IQ tests really measure intelligence. There is little agreement about whether 'intelligence' is a single mental capacity or is composed of multiple types of mental capacity. IQ testers insist that there is a mental property, denoted *g* (for general intelligence or general cognitive ability), and this is what is measured by IQ tests. However even amongst themselves and they find it difficult to agree exactly on what IQ tests measure and some have resorted to the position that they measure 'the ability to score highly on IQ tests'. Whatever they measure, it is clearly true that IQ scores correlate strongly with academic success and also with career success as measured by a person's salary.

The question of whether IQ differences are primarily due to genetic or environmental causes has been studied extensively, mainly using twins or adopted children. These studies have tended to show that 50% to 80% of the variation in IQ scores in a population is due to genetic differences. There are huge methodological issues with these studies, which we cannot discuss here. Many critics have argued that the claims for such high 'heritability' of IQ are unreliable, and that the studies systematically underestimate environmental factors. Whatever the truth, it is inherently implausible that the genetic contribution to IQ variation is nil, and that we are truly all the same blank slates at birth. Human bodies vary genetically in many characteristics, and IQ is a measure of some function of our brains, which grow through the expression of our genes. The current consensus in biology and medicine is that human characteristics are the result of the interaction of genes with environmental influences.

There is a strong scientific critique of genetic determinism, which emphasises the complexity of genes and biology and the openness of organisms to environmental influences (in the case of humans including social forces such as poverty and discrimination). Liberals, with their predisposition to argue for social equality and to believe in people's ability to improve their lives if social forces like racism did not get in the way, have subscribed very strongly to this critique. We, of course, belong to this camp, but we should not allow this belief to degenerate into a self-righteous and simplistic denial of any possible role of genes in influencing IQ, or a resulting complacency about 'IQ genes' research, on the basis that it is 'impossible that such genes could ever be found'. Just because the views of right-wing eugenicists are immoral and unacceptable does not mean that 'IQ genes' can never be found. From existing evidence it seems possible that hundreds of genes, each with a small influence on IQ might exist.

The issue of the cause of group differences in IQ scores is the politically most explosive. What cannot be denied is that significant differences between the IQ scores of ethnic groups do exist: in the USA there is a persistent gap between the IQs of white people of European origin and African-Americans. Those who believe that IQ is largely genetic, such as Arthur Jensen and the authors of *The Bell Curve*, Charles Murray and Richard Herrnstein, tend to argue that this group difference is also largely due to genes. Critics respond that the data can be interpreted very differently, and that the methodology of group comparisons cannot adequately take into account the effects of poverty and the history of oppression of African-Americans. It is also often argued that IQ tests are culturally biased and do not adequately measure non-white people's real intelligence. Liberals have repeatedly suggested that IQ researchers' belief in the genetic inferiority of African-Americans is simply an example of racism, a charge that most IQ researchers hotly deny.

4. What will happen if genes influencing IQ are found?

Firstly, it's important to realise that there is no medical benefit from this research, since the focus is on gene variants that lead to very high IQ. However, once such genes are identified it will be a relatively simple matter to compare the frequency of 'high IQ variants' in different populations and there are undoubtedly geneticists who would be willing and interested to do this. Amongst the hundreds of variants, each with a small effect, there are bound to be some that occur at different frequency in different populations. The results of such research however equivocal and unclear, would be cherry-picked by racists to support their claims about the inferiority of black people. That alone is sufficient reason to avoid publishing research of this kind.

Another extremely harmful consequence is likely to be the use of 'IQ gene' markers to stream children in education from birth, both through private efforts and in some countries, including possibly China, through state-controlled programmes. The finding of 'IQ genes' would be likely to push public policy on selective education in the direction of greater selection and reduce public funding for programmes that attempt to counter education underachievement in underprivileged groups, as Arthur Jensen, the doyen of IQ research, advocated. Robert Plomin suggests that genetic tests of young children could identify those in need of extra education support, but given the history of this field, this seems extremely unlikely. It is far more likely that such tests would be used to allocate more resources top to those judged more able to exploit them.

Given rapid progress in genetic testing and gene sequencing technology, the idea of preimplantation or prenatal genetic IQ tests is not as much a piece of science-fiction as some commentators would like us to believe. The BGI project creator, Steven Hsu openly argues for its use in order to improve the IQ of the Chinese population and provides a PGD scheme (which he wrongly labels 'genetic engineering') to show how it might be done. The capability for cheap testing of many gene variants at once is already here: the question is whether the genes that are found will have enough of an effect on predicted IQ to create significant differences between different embryos. There has been a long debate on this question, but the truth is that we simply do not know the answer. What is required is not that genetic tests will be able to provide precise predictions of a child's IQ, which is impossible, but that tests could be able to predict sufficient variation between embryos to be interesting to parents who have a high degree of interest in their child's future IQ. A society in which some people were given a genetic competitive advantage at birth would be a eugenicists' dream, but a nightmare from the point of view of those who believe in equality.

5. Should we stop science?

A common response to efforts to prevent certain research from going forward is that this is 'anti-science', and that knowledge is intrinsically good. These views, although popularly held, are not based on a realistic understanding of how science works in the real world. In reality, big science projects cost a lot of money and do not take place unless they are funded. There is never enough money to fund all the research that scientists want to do and government, corporate and military funders decide the direction that science will take. Science gets stopped every day. So the real question is which science do we want? And who gets to control it? It's certainly not true that all knowledge is a good thing. The knowledge that we develop reflects the agendas of those who control science and, as in this case those agendas can be extremely socially harmful. Another example might be research into viruses capable of being used in biological warfare.

So this attempt to prevent research into genes and IQ is a perfectly legitimate and normal part of democracy. There is no question of being anti-science: the point is to exercise our democratic rights to choose which science we want. We would argue that the money devoted to this project should be put into research that will genuinely benefit people.

It is also often suggested that it is, in any case 'impossible to stop science' and that scientific progress is 'inevitable'. But in 1996 a small campaign group in the UK, called The Campaign for Real Intelligence (CRIT) mounted a successful effort to prevent funding of Robert Plomin's 'IQ gene' research by the UK Medical Research Council. On that occasion, Plomin refused public discussion of his research saying, "I'm not worried about the ethics of what I'm doing and don't want to discuss it in a public forum. I want to get on with the science of it."⁸ This of course is a classic attempt by a scientist to portray his/her work as 'just pure research' and to resist connecting it to the histories and social and political agendas that make the questions s/he is trying to answer scientifically interesting in the first place. The degree to which such a resistance is possible in general has been widely debated, but in this particular case to refuse to make the connection is utterly impossible: it is the culmination of a century of efforts to produce scientific evidence to influence public policy in a eugenic direction. No doubt it is possible to do research in this field without forwarding that cause, but in order to do so a scientist would have to rigorously dissociate him/herself from eugenic and racist institutions and colleagues. Robert Plomin has done no such thing.

6. Conclusion: the past did not go away

In our view, the history of association between IQ testing, eugenics and racism in the USA makes it impossible to sustain the position that research into genes and IQ is 'objective, pure science'. The past did not go away and this entire research agenda is irrevocably tainted. We can rightly ask those who pursue it, 'why are you interested in proving this anyway?'

However, this does not mean that we can ignore the possibility that some genes influencing IQ score might be identifiable. What such findings would mean for our understanding of the brain and mind would be highly debatable. When genetic variants are found, it is always possible to find differences in the frequency of some of them between different populations. Whilst academics debated this issue, racists would trumpet the findings as proof of their theories. This would cause immense damage and division in society. This alone is sufficient reason for stopping such research, but the real point is that the entire research agenda should be abandoned, because it is badly motivated, an expression of the worst tendencies in our society.

In fact, we would argue that such research is an advanced form of stupidity. The name of the former campaign group, the Campaign for Real Intelligence (modelled on the UK's popular Campaign for Real Ale) points to what is wrong with the kind of intelligence that IQ researchers are most interested in: the kind of abstract thinking ability that makes you good at mathematics, logical puzzles and genome sequencing, but incapable of perceiving and 'not interested in discussing' the social harm you are doing. This kind of intelligence cannot be allowed to run the world.

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