
THE *FERNANDO* PRINCIPLES AND GENETIC VULNERABILITIES TO THE CRIMOGENIC EFFECTS OF SOCIAL ENVIRONMENTS

by Allan McCay

Justice Wood in *R v Stanley Edward Fernando* enunciated principles concerning the mitigating effect of certain social circumstances in respect of the sentencing of Aboriginal offenders.¹ These principles have gone on to exert influence in New South Wales and ‘framed a seminal body of jurisprudence on the relevance of Aboriginality, alcoholism and disadvantage to sentencing’.² They are currently being considered by the High Court.³

Although the case before the High Court does not focus on genetics, this paper will consider the possibility that some who encounter *Fernando* environments have a *genetic vulnerability* to the crimogenic effects of such environments and, as a result, may deserve more mitigation than is currently granted.

First, I will briefly outline some of the *Fernando* principles that may be relevant in the context of genetic vulnerability and mitigation. I will then discuss some ethical concerns that relate to paying attention to genetic influences on crime, and some countervailing reasons which suggest that such attention is ethically important.

After that I will introduce relevant science from the field of behavioural genetics that may provide epistemic support for claims about genetic vulnerability and *Fernando* environments. Finally, working with the hypothesis that credible evidence is available to a sentencing court, I will focus on the relationship between behavioural genetics and *Fernando* mitigation and some possible objections to such mitigation.

FERNANDO

In *R v Stanley Edward Fernando* an Aboriginal man had pled guilty to the malicious wounding of his de facto partner after a bout of heavy drinking.⁴ In sentencing him Justice Wood outlined a number of principles of relevance to the sentencing of Aboriginal offenders. I will not outline all of the principles but focus on two that have particular relevance in the current context. The first principle is that:

[t]he same sentencing principles are to be applied in every case irrespective of the identity of a particular offender or his

membership of an ethnic or other group but that does not mean that the sentencing court should ignore those facts which exist only by reason of the offenders' membership of such a group.⁵

A subsequent principle contains the following comments: [w]hilst drunkenness is not normally an excuse or mitigating factor, where the abuse of alcohol by the person standing for sentence reflects the socio-economic circumstances and environment in which the offender has grown up, that can and should be taken into account as a mitigating factor.⁶

The precise nature of the ‘socio-economic circumstances’ for *Fernando* purposes is not described in the decision, but would presumably include elements of the offender’s family, peer and broader community circumstances. Perhaps some of these are also ‘facts which exist only by reason of the offenders' membership’ of ‘an ethnic or other group’.

I will discuss research which suggests that some people have genetic vulnerability to the crimogenic effects of each of these circumstances but prior to this, some ethical concerns relating to the use of such research in sentencing matters will be canvassed.

GENETICS AND FERNANDO MITIGATION: SOME ETHICAL CONCERNS

Research on genetic vulnerability to the crimogenic effects of social environments comes from the science of behavioural genetics. Of course contemporary behavioural geneticists are not the first to suggest that there may be biological predispositions to criminal behaviour. The history of criminology is filled with discredited biological theories and warnings about the horrors that may ensue from the misuse of such theories in furtherance of racial policies.

This history is reason enough to proceed cautiously in examining purported biological causes of crime, but in view of the effect of colonial racial ideas and associated policies on Aboriginal people, caution is particularly needed.

One important preliminary point is that the research discussed in this paper does not suggest that Aboriginal people have a particular genetic susceptibility to crime, *but that some Aboriginal people (like some people who are not Aboriginal) have a genetic vulnerability to the criminogenic effects of certain social circumstances* (perhaps those prevalent in *Fernando* environments).

There is no suggestion in the research discussed here, that genetic vulnerability is especially prevalent among Aboriginal people. The significance for some Aboriginal people is that *Fernando* environments may trigger a genetic vulnerability that may not have been triggered in different social circumstances.

That said, none of this gives reason to believe that a focus on biosocial influences on crime will not be used to further stigmatise Aboriginal people. Unfortunately, the discussion of behavioural genetics in the context of the Maori peoples gives reason to treat this as a significant possibility.⁷

WHY EVEN CONSIDER GENETIC VULNERABILITY TO FERNANDO ENVIRONMENTS?

In light of these important concerns, should the idea of genetic vulnerability to the criminogenic effects of *Fernando* environments even be considered?

One reason in favour of such consideration relates to the ethical force of the *Fernando* principles. For those who have the intuition that the law is right to moderate punishment in light of social circumstances of the offender (as I do) it is worth asking why this is just.

It seems that one reason is that those offenders who encounter *Fernando* environments encounter difficulties in complying with the criminal law *that are not of their own doing*. This involves a recognition that life is not a level playing field and it is unfair to treat those who encounter difficulties in complying with obligations, otherwise than by their own choices, the same as those who do not encounter such difficulties.

Hart saw the idea of difficulty in complying with obligations as important to the concept of mitigation⁸ and it seems plausible that this may also be an ethical principle.

If difficulty complying with obligations is of ethical significance in matters of mitigation, this may be because those who encounter unchosen difficulty in complying with obligations are less morally culpable where they fail to comply, than those who have not encountered such a difficulty.⁹ It seems plausible that questions of moral

culpability are ethically important in sentencing decisions (albeit not the only factors of ethical significance)¹⁰ and that it is unjust to punish a person in a way that exceeds their moral culpability.

So if *Fernando* circumstances are thought to create unchosen difficulties in complying with obligations, this gives ethical support to the view that account needs to be taken of *Fernando* environments in sentencing decisions. This may be a way of providing an ethical justification for the *Fernando* principles.

But an offender's genetic constitution is also a factor that is unchosen, and one that may exacerbate any difficulties created by the social environment. It would be perverse and inconsistent for the law to recognise the difficulties created by the social environment as mitigating but to fail to grant further mitigation to a person who through, no fault of their own, was thought to be especially vulnerable to the effects of this environment.

Thus the consequences of a *Fernando* environment might be compounded by genetic vulnerability, thereby making compliance with the law especially difficult for a particular offender. On the view put forward here, this compounding effect would further reduce their moral culpability, giving rise to increased mitigation.

Thus an ethical reason in support of the view that genetic vulnerability to the criminogenic effects of *Fernando* environments should be considered by the courts is, that to fail to engage in such consideration may result in an overestimation of moral culpability and a punishment that is unjust and undeserved.

If we think that only the guilty should be punished and that they should not be punished in excess of what they deserve, then genetic vulnerability is morally significant. It is for this reason that it seems important to consider behavioural genetics in sentencing.

It does not seem just to disregard a mitigating factor for a particular offender on the grounds that it may stigmatise others, but it must be accepted that there are ethical problems with both accepting and failing to accept such mitigation. Some ethical issues relating to acceptance will be canvassed towards the end of this paper.

EPISTEMIC SUPPORT FOR CLAIMS ABOUT GENETIC VULNERABILITIES

Is there any epistemic support for claims about genetic vulnerabilities to the criminogenic effects of *Fernando*

environments? In order to consider this it is useful to start with research into links between genetic predisposition and criminal behaviour that focusses on genes *without consideration of social environments*.

An early piece of research, published by Brunner et al. focussed upon the link between an allele (a genetic variation of a gene) that, in males, led to the production of *none* of the neurotransmitter monoamine oxidase ('MAOA'), and criminal conduct. The research gave reason to believe that this kind of genetic predisposition led to mild retardation, aggression and impulsivity in males.¹¹ The antisocial behaviour of the affected males in the study included arson, attempted rape and exhibitionism.¹² Fortunately it appears that the condition is very rare, but for those who are affected it may lead to problems with compliance with the criminal law.

A subsequent paper was published in 2002 in *Science* by a team lead by Avshalom Caspi.¹³ Unlike the preceding paper, this research took a *biosocial*¹⁴ approach and considered genetic predisposition in the context of the social environment. It raised the possibility of genetic vulnerability to the crimogenic effects of a particular kind of social environment.

Caspi's team were interested in the question of why only some males, who were maltreated in childhood, engage in antisocial behaviour in adulthood. Their hypothesis was that genetic factors increase susceptibility to the adverse effects of environmental circumstances in the form of maltreatment. Their results indicated that individuals with low MAOA activity (reduced production of the neurotransmitter as opposed to a complete failure of production in the first study mentioned) were *more likely* to exhibit antisocial behaviour as adults, but this only happened if they had also experienced maltreatment.

The Caspi et al. paper indicates that 85 per cent of those who were *both* maltreated and had a low activity MAOA gene developed some type of antisocial behaviour, and that the 12 per cent of those who had both the genetic and environmental predisposition were responsible for 44 per cent of the violent convictions noted in the study.¹⁵ It also seemed that males with low activity MAOA genes were affected to a *greater extent* by the maltreatment than their high MAOA counterparts and so, for example, severe maltreatment appeared to have bigger effects on their measures of antisocial personality disorder, and upon self-reports of disposition towards violence.¹⁶

United Journey, Jandamarra Cadd, Oil & Acrylic on Canvas, 1520mm x 1020mm



Research in behavioural genetics is now starting to suggest that, for some but not all, *there is a genetic susceptibility to the predisposing effects of one's local community environment*—or in American terminology, one's neighborhood—and this is a way in which genetics might become relevant to mitigation based on the *Fernando* principles.

In a recent paper, Hart and Marmorstein have suggested that neighborhoods with a high proportion of children predispose *some* towards aggression *more than others*.¹⁷ According to the research, those with the low activity MAOA gene are influenced towards aggression by neighborhoods with large numbers of children, but those with the higher activity version of the gene are less susceptible to the influence of child saturation in the neighborhood.¹⁸

Other recent research, focussing on other genes, has suggested that some variations of dopamine receptor genes confer a genetic vulnerability to the criminogenic effects of neighbourhood disadvantage.¹⁹

If this sort of research were to show that, as a result of a genetic predisposition, some were more influenced than others by *Fernando* environments, then some offenders may deserve further mitigation of a genetic nature. Correspondingly, if an offender was thought to be particularly resilient in the face of an adverse environment, then the court might not be warranted in granting mitigation where it would have been granted but for evidence of the genetic resilience.

But is this research credible? Some in the US have managed to use MAOA and other issues of genetic predisposition in sentencing matters.²⁰ This gives reason to consider the *possibility* that such research may be accepted by Australian courts. However, I will not make any claims about whether an Australian judge can be convinced that it is relevant, admissible and reliable. It remains to be seen how the Australian courts will react.

GENETICS VULNERABILITY TO FERNANDO ENVIRONMENTS AND THE PURPOSES OF PUNISHMENT

If the argument in this paper is sound, credible research would have a bearing on moral culpability, and there are important ethical reasons in favour of consideration of genetic vulnerability to *Fernando* environments. However, although moral culpability is important in the context of a retributive paradigm, because it used in an assessment

of what punishment an offender *deserves*, sentencing is not *solely* informed by a retributive paradigm. It also looks beyond what is deserved to community protection.

As the majority in *Veen (No 2)* noted:

the purposes of criminal punishment are various: protection of society, deterrence of the offender and of others who might be tempted to offend, retribution and reform....They are guideposts to the appropriate sentence but sometimes they point in different directions.²¹

Those who have experienced a *Fernando* environment and who have a genetic vulnerability to the criminogenic effects of such an environment may be dangerous people and, though not very morally culpable for what they do, may be a threat to the community. In respect of sentencing such people, the guideposts may point in different directions.

CONCLUSION

The consideration of genetic vulnerability to *Fernando* environments raises some difficult ethical issues. On one hand credible evidence might suggest that an offender with significantly diminished moral culpability is deserving of little punishment. But the same credible evidence might have undesirable consequences for others in terms of stigmatization and danger. The issue of genetic vulnerability to *Fernando* environments seems to force the question of what punishment is really about; giving offenders what they deserve or preventing undesirable consequences for others.

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1 *R v Stanley Edward Fernando* (1992) Australian Criminal Reports 58 (hereafter '*Fernando*').

2 Thalia Anthony, 'Is There Social Justice in Sentencing Indigenous Offenders?' (2012) 5(2) *University of New South Wales Law Journal* 564.

3 *Bugmy v The Queen* (2013) HCA Trans 111 (10 May 2013).

4 *Fernando*, above n 1, 58.

5 *Ibid* 62-3.

6 *Ibid*.

7 The Daily Telegraph, 'Maori 'Not Retarded Borderline Psychotics' *The Daily Telegraph* (online), 11 Sep 2009 <<http://www.news.com.au/world-old/maori-not-retarded-borderline-psychotics/story-e6frfkyj-1225771914508>>.

8 Herbert L A Hart, *Punishment and Responsibility: Essays in Philosophy of Law* (Oxford University Press, Second Edition, 2008) 15.

- 9 It is not being suggested that this ethical principle is the only principle that may have a role in influencing a person who endorses the Fernando principles to conclude that it is just to grant mitigation to offenders who have experienced Fernando environments. It may also be that for some, the intuition is influenced by concerns about the Australian courts' standing to punish in light of the history of colonization.
- 10 Another factor of ethical significance is community protection and I will return to this later.
- 11 Han G Brunner et al., 'X-linked borderline mental retardation with prominent behavioral disturbance: phenotype, genetic localization, and evidence for disturbed monoamine metabolism' (1993) 52(6) *American Journal of Human Genetics* 1032.
- 12 Ibid.
- 13 Avshalom Caspi et al., 'The Role of Genotype in the Cycle of Violence in Maltreated Children' (2002) *Science* 297, 851-4.
- 14 Rafter, an advocate of the biosocial approach, is keen to point out that biologically informed criminology is different from earlier biological views and holds potential for progressive programs. She states that:

Today's biocriminologies, then, are *not* more of the same. While they continue to rely on the medical model and to be preoccupied with human differences, they can no longer be automatically charged with reductionism or biological determinism, and (aside from some versions of

evolutionary criminology) they are no longer overtly sexist or racists. They are compatible with sociological theories of crime and could be yoked to progressive programs addressing crime through the amelioration of social conditions.

See Nicole Rafter, *The Criminal Brain: Understanding Biological Theories of Crime* (New York University Press, 2008) 246.

- 15 Caspi et al., above n 13.
- 16 Ibid 852.
- 17 Daniel Hart and Naomi R Marmorstein, 'Neighborhoods and genes and everything in between: Understanding adolescent aggression in social and biological contexts' (2009) 21(3) *Development and Psychopathology* 961-73.
- 18 This research focused in particular on children who had moved neighborhood.
- 19 Kevin Beaver et al., 'The interaction between neighborhood disadvantage and genetic factors in the prediction of antisocial outcomes' (2012) 10(1) *Youth Violence and Juvenile Justice* 25-40.
- 20 For an overview of the use of behavioural genetics in criminal matters in the US see Deborah Denno 'Courts' Increasing Consideration of Behavioral Genetics Evidence in Criminal Cases: Results of a Longitudinal Study' (2011) 3 *Michigan State Law Review* 967-1047.
- 21 *Veen v R (No 2)* (1988) HCA 14 (para 13).

Tomorrows Dreaming
Jandamarra Cadd

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