

## GENETIC PREDISPOSITION TO PAEDOPHILIA AND CHILD ABUSE

### RICHARD BARRACLOUGH QC

#### LEADING COUNSEL WITH TANYA ROBINSON IN THE CASE OF REGINA V MITCHELL

1. JM was born on 30/7/1956. In 2012 he was convicted of 26 sex related offences. His victims were 8 family members aged between 7 and 13 years old, including his brother when the brother was aged between 8 and 11 years, two sisters (when aged between 7 and 12 years and aged 9 years), three daughters and son (when aged between 7 and 16 years). His father had been imprisoned for sexual offences committed on him and his sisters. He had been encouraged by his father to commit offences on his sisters. He reported having been abused by his father from the age of 1 to 5 years. He said that it had become part of his everyday life. He had been removed from the family when aged about 7 although he would return home where the abuse continued. There was no psychiatric history and no manifestation of mental illness.
2. The pre sentence psychiatric report stated *"Incestuous child sex offending of the kind perpetrated by M always has complex causation. (His) father was convicted of incestuous sex offending against his own children- a daughter and a son. This suggests the presence of a familial (a genetic inheritance) deviant sexual pathology – incestuous paedophilia in male members of the family – which was present in the father and was subsequently inherited by the son..I have noted that one of (M's) victims was his son. The presence of such a (presumably) genetic inheritance would provide a background against which further childhood experiences of abuse would allow the evolution of a deviant sexual constitution as manifested by (M)..Indeed it is likely that (M) was abused by his father too, as indeed he claims he was. This childhood sexual abuse plausibly left a psychological imprint upon him and caused him to physically identify himself with his father and become an abuser like him...I would hypothesise that in his own child sex offending (M) repeated his childhood experiences of abuse, in a sense reversing his own childhood roles, this time becoming the "active" perpetrator of the sexual acts towards his "passive" victims.."*
3. This opinion has caused some discussion regarding any genetic make up to this disorder and such criminality. One psychiatrist opined that there could be no genetic component but rather that this was part of the spectrum of deviant behaviour seen in human beings enhanced by a history of familial abuse on the "nurture" principle.
4. A trawl on the internet on the topic provides food for interesting debate.
5. As far back as the 1980s it was being argued that certain behaviours are in part genetically based in that the genes have already been tested in the parents and thus certain sexual behaviours may result from (phylo) genetic pre dispositions (see *"The Phylogeny of Male/Female Differences in Sexual Behaviour"* Medicus and Hopf.)

See also *"Potential Implications of research on genetic or Heritable Contributions to Pedophilia for the Objectives of Criminal Law"*, (Berryessa of the Stanford University Center for Biomedical Ethics) where it is said that *"the etiology of pedophilia remains largely*

*unknown but the disorder is thought to be caused by an undetermined distribution of psychological, sociological and biological factors..Most scientists now consider the disorder as a complex deep rooted predisposition and over the last few decades have correspondingly begun to study possible biological associations to the etiology and presence of the disorder, such as abnormal brain structure and function, irregular hormone level, biological vulnerabilities to environmental factors and genetic influences”.*

The author refers to six main studies “explicitly suggesting genetic contributions to pedophilia”.

Some researchers suggest that establishing the presence or absence of a familial pattern of occurrence is an important preliminary step in identifying the aetiology of a disorder.

*A 1984 study surveyed the familial history of 33 paedophilic patients and found 10.3% had male first degree relatives with paedophilia and “the researchers concluded this shows a level of familial transmission and that the presence of pedophilia in one member of a family increases the chance of pedophilia. This study was unable to differentiate between the effect of shared environment and genetics. A 2013 Finnish study sampled 4000 Finnish twins and male siblings to estimate the role of heritability and genetic influences in shaping pedophilia. The authors concluded the incidence of sexual interest in children were higher for monozygotic twins compared with dizygotic twins (identical/non identical) (presumably in the presence of established familial paedophilia) and the genetic variance attributable to heritability was estimated at 14.6%. The study concluded that these results present preliminary evidence that genetic influences may contribute to sexual interest towards children at least amongst adult males. A 2014 Korean case study purports to support the view that genetic influences are more important to the causes and development of paedophilia than environmental factors including childhood abuse. Other research suggests that potential heritability may be due to differences in genetically determined susceptibility to environmental factors during development including adverse childhood experiences or sexual interactions rather than familial transmission. An Italian case study in 2011 related a patient’s late onset pedophilia to a genetic screening showing the R177H mutation in the progranulin (PGRN) gene. This gene is expressed in neurons in the cerebral cortex, hippocampus and cerebellum and is implicated in neurodegeneration and neural development. The patient was treated with anti psychotic and anti depressant medication and ceased having paedophilic urges and behaviours. A number of studies report some successful treatment of the urges associated with pedophilia and paraphilias generally with selective serotonin reuptake inhibitors (SSRIs) specifically sertraline, fluoxetine and Fluvoxamine which increase the serotonin availability for 5-HT receptors”*

6. Biological criminology does not explain all crime but draws on human genetics and neurobiology to explain certain criminal behaviours. Nikolas Rose in “*The Biology of Culpability: Pathological Identity and Crime Control in a Biological Culture*” (Theoretical Criminology February 2000 Vol 4, 5-34) writes “Jurisprudential notions of free will and responsibility are not being displaced by genetic essentialism in the court room where the tendency is for an increased emphasis upon moral responsibility of all offenders for their actions. However in other areas of the criminal justice system we are seeing the emergence of new conceptions of the individual “genetically at risk” of offending and the development of crime prevention strategies based on the rationale of public health. This is not a new

*eugenics but a control strategy that aims to identify, treat and control individuals pre disposed to impulsive or aggressive conduct. The implications of the new biological criminology may be seen in the form of genetic discrimination, genetic screening in risk assessments and the use of quasi consensual treatment for supposed biological tendencies as conditions for non custodial sentences. The search for biological dispositions may also play a part in the increased use of preventive detention and other preemptive interventions for the "protection of the public" against those whose conduct seems to show wanton disregard for the moral constraints on the conduct of free individuals in a liberal society"*

7. The literature suggests that there may be neurological and endocrine abnormalities in paedophilia. Neuropsychological studies and clinical cases have suggested an association between paedophilia and frontocortical dysfunction. Knowledge about the neurobiological mechanisms underlying paedophilia is however still fragmentary.
8. The brain morphology of such disorders has not yet been investigated using MRI techniques. Whole brain structural T1- weighted MRI images from a number of paedophile patients matched with a similar number of healthy age matched control subjects from a comparable socio economic stratum were processed by using optimised automated voxel based morphometry within multiple regression analyses. Compared with the control subjects paedophiles showed decreased grey matter volume in the ventral stratum (also extending into the nucleus accumbens), the orbitofrontal cortex and the cerebellum. These observations are said to further indicate an association between frontostriatal morphometric abnormalities and paedophilia and may support the hypothesis that there is a shared etiopathological mechanism in all obsessive compulsive spectrum disorders (see *"Structural brain abnormalities in the frontostriatal system and cerebellum in paedophilia"* (Schiffer, Peschel, Tillman, Kruger) Journal of Psychiatric research November 2007 Vol 41 (9) 753-762).
9. *"Brain alterations in paedophilia: A critical review"* (Mohnke, Muller, Walter, Progress in Neurobiology November 2014 Vol 122 1-23) reports reduced amygdala volume in paedophilic men as observed in three MRI studies. The abstract reports that psychosexual and biological factors have been implicated in paedophilia such as alterations in brain structure and function. The paper reviews the expanding body of literature on the topic including brain abnormality case reports as well as structural and functional neuroimaging studies. Case studies of men who have committed sexual offences against children implicate frontal and temporal abnormalities which may be associated with impaired impulse inhibition. Structural neuroimaging investigations show volume reductions in paedophilic men. Although the findings have been diverse, smaller amygdala volume has been replicated repeatedly. Functional neuroimaging investigations demonstrate an overlap between paedophiles and teleiophiles (those with a primary or exclusive sexual attraction towards adults) during sexual arousal processing. While it is controversial among studies regarding group differences, reliable discrimination between paedophilic and teleiophilic men may be achieved using functional activation patterns. Nevertheless the diverse findings published so far suggest that further research is necessary to disentangle the neurobiological mechanisms for paedophilic preference. A number of methodological confounds have been identified which may account for the inconsistent results which could prove to be beneficial for future investigations.

10. In *"Connectivity and functional profiling of abnormal brain structures in paedophilia"* (Poepl at al, Human Brain Imaging, Vol 36 Issue 6 2374-2386) the authors abstract reports that despite its 0.5-1% prevalence in men and its general societal relevance, neuroimaging investigations in paedophilia are scarce. Preliminary investigations in paedophilia indicate abnormal brain structures. However no study has yet linked structural alterations in paedophiles to both connectional and functional properties of aberrant hotspots. The relationship between morphological alterations and brain function in paedophilia as well as their contribution to its psychopathology thus remains unclear. The researchers assessed bi-modal connectivity of structurally altered candidate regions using meta-analytic connectivity modelling (MACM) and resting state correlations employing openly accessible data. They compared the ensuing connectivity maps to the activation likelihood estimation (ALE) maps of a recent quantitative meta-analysis of brain activity during processing of sexual stimuli. Second they functionally characterised the structurally altered regions employing meta-data of a large scale neuroimaging database. Candidate regions were functionally connected to key areas for processing of sexual stimuli. They found that the functional role of structurally altered brain regions in paedophilia relates to non sexual emotion as well as neurocognitive and executive functions which may entail abnormal sexual arousal patterns. The findings are said to indicate that structural alterations account for common affective and neurocognitive impairments in paedophilia. The present multimodal integration of brain structure and function analyses links sexual and non sexual psychopathology in paedophilia .
11. In *"Rethinking responsibility in offenders with acquired paedophilia: punishment or treatment?"* (Gilbert; Focquaert, International Journal of Law and Psychiatry February 2015 Vol 38 51-60) the authors review the current neurobiological literature on the aetiology of developmental and acquired paedophilia and examines what the consequences could be in terms of responsibility and treatment for the latter. The approach to acquired paedophilia from a neurobiological perspective is controversial. The study is said to establish a distinction between developmental and acquired paedophilia and examines the issue of *"responsibility"* in the case of acquired paedophilia particularly in cases where the offender's conduct (who are diagnosed with acquired paedophilia) appears to result from volitionally controlled behaviour seemingly incompatible with a neurological cause. The paper explores how responsibility can be compromised when offenders with acquired paedophilia have (partially) preserved moral knowledge despite their sexual disorder. It examines the option of offering mandatory treatment as an alternative to imprisonment for such offenders and the ethical issues related to offering any form of quasi-coercive treatment as a condition of release. The study concludes that decisions to fully or partially excuse an individual who fulfils the diagnosis of acquired paedophilia should take all relevant information into account, both neurobiological and other environmental evidence and should proceed on a careful case by case analysis before sentencing or offering treatment.
12. The issue of genetic pre-disposition is a double-edged sword. It may be possible to use the familial absence of paedophilia to argue that the defendant is unlikely to have committed the offence with which he is charged. That would necessitate psychiatric and other examinations. It is then necessary to cross the hurdle of admissibility. The Court will have to determine to what extent such evidence might assist the jury more than simply adducing the evidence that there is nothing in the defendant's history to suggest that he is the sort of

individual to commit this sort of offence. The Prosecution would want their own report. Thus there would be issues of relevance, admissibility, cost and time.

13. If there is a history of familial abuse might the Prosecution seek to call evidence that it is more likely than not that the defendant would commit this sort of offence because he is genetically pre disposed to doing so?

Thus in *Johnston v Love* (Pennsylvania Eastern DC (940 F Supp 738 July 22 1996 (referred to by Berryessa above) the prosecutor referred to a defendants family history as suggesting that he belonged to a family of crime and it is suggested that familial transmission could be used in the same way.

Once convicted, if the defendant is shown to have a genetic pre disposition to commit this sort of offence to what extent will that play a role in establishing “*dangerousness*”. Can he ever be rehabilitated?

One question might be, if not genetically predisposed to paedophilia is there a structural brain problem? Can it be mitigated by medication?

The difficulty here is the extent to which the genetic predisposition can be teased out of environmental factors as in the case of the “*psychopathic gene*” which is said to be moderated by positive developmental and childhood experiences.

Does it make any difference where the offence is so serious that punishment and the need for public protection must prevail over any desire to rehabilitate? Whatever the mitigating feature implicit in the cause of the disorder the case for public protection becomes stronger.

14. There is some evidence that deterrence might discourage at least some sex offenders from reoffending. American research suggests that the storage of DNA goes some way to reducing recidivism because the offender knows that his DNA is stored. That carries with it any number of ethical complications highlighted by Berryessa including violations of genetic privacy and misuse of stored genetic information. The storage of such data then has an impact on the entire family where some genetic disorder is recorded including stigmatisation and discrimination.
15. One basis for the psychiatric assessment of M as “dangerous” was “*(the) familial transmissions of deviant sexual pathology – incestuous paedophilia in this case (which) tend to render the (presumably inherited) deviant sexual constitution largely resistant to the deterrent effects of imprisonment*” It was obvious that the defendant was dangerous. Two of his victims attempted suicide during the trial. The offences involved extreme violence. There was no regret. A sentence for public protection was inevitable.

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