STIGMATISING THE 'NORMAL': THE LEGAL REGULATION OF BEHAVIOUR AS A DISABILITY

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I INTRODUCTION: BIOTECHNOLOGIES OF THE BODY AND STIGMA

The impact on law of recent advances in genetics and neuroscience is potentially transformative. Research in these sciences is expanding the set of behaviours attributed with a biological cause[1] and turning social categories of temperament, character, morality and conduct into a scientific typology of identity. Increasingly, studies are being directed towards identifying genetic and neuroscientific explanations for traits such as aggression, lack of empathy and antisocial behaviour.[2] However, these traits, and the behavioural norms against which they are measured, are in a constant state of flux in response to the political, legal, economic, social and cultural landscape in which they are embedded.

The impact of this research on certain areas of law has already been marked. In criminal law, for example, the significance of these scientific developments in

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1 See, eg, Adrian Carter and Wayne Hall, 'The Social Implications of Neurobiological Explanations of Resistible Compulsions' (2007) 7(1) *American Journal of Bioethics* 15; Allan Siegel and Jeff Victoroff, 'Understanding Human Aggression: New Insights from Neuroscience' (2009) 32 *International Journal of Law and Psychiatry* 209; Rosemary Tannock, 'Attention Deficit Hyperactivity Disorder: Advances in Cognitive, Neurobiological, and Genetic Research' (1998) 39 *Journal of Child Psychology and Psychiatry* 65; Brett S Abrahams and Daniel H Geschwind, 'Advances in Autism Genetics: On the Threshold of a New Neurobiology' (2008) 9 *Nature Reviews Genetics* 341.

2 Thalia C Eley, Paul Lichtenstein and Terrie E Moffitt, 'A Longitudinal Behavioral Genetic Analysis of the Etiology of Aggressive and Nonaggressive Antisocial Behavior' (2003) 15 *Development and Psychopathology* 383; Kevin M Beaver et al, 'The Intersection of Genes and Neuropsychological Deficits in the Prediction of Adolescent Delinquency and Low Self-Control' (2010) 54 *International Journal of Offender Therapy and Comparative Criminology* 22; Estrella R Montoya et al, 'Testosterone, Cortisol, and Serotonin as Key Regulators of Social Aggression: A Review and Theoretical Perspective' (2012) 36 *Motivation and Emotion* 65; Essi Viding et al, 'Evidence for Substantial Genetic Risk for Psychopathy in 7-Year-Olds' (2005) 46 *Journal of Child Psychology and Psychiatry* 592.

expanding, supplementing or supplanting the role of law as the primary determinant of criminality has been widely acknowledged and is the subject of a burgeoning literature.[3] In this article, we examine two areas of law in which the expansion of the category of behaviour as a disability has garnered much less attention, but is increasingly important: laws regulating pre-birth genetic testing and disability discrimination law. We argue that changes to the definitional boundaries of 'disability' are as much changes to the definitional boundaries of 'normalcy', a category that too easily evades critical attention, particularly in law. Rather than shoring up the category of disability, we argue that by including normalcy and its variants in our accounts of human behaviour – by stigmatising the normal – it may be possible to respond to these new scientific developments in ways that do not reinforce existing inequalities.

II PEOPLE WITH CHALLENGING BEHAVIOUR BEFORE THE LAW

People who exhibit challenging behaviour and who do not comply with social values and conventions can come into contact with the legal system in either its punitive or protective capacities.[4] The recasting of challenging behaviour as a disability grounded in the material body can have a de-stigmatising effect, providing a biological explanation that evokes understanding rather than blame. However, more often than not, to be identified as subject to a biological condition also carries a set of negative associations and assumptions in which one is cast as infirm, weakened, incapable, helpless and powerless.

This double bind is also reflected in law, where the expansion of the category of disability offers both positive and potentially harmful effects. On the one hand, this expansion allows a newly included person to claim legal protections, such as equal rights to education or employment. On the other hand, it expands legal categories with negative applications, such as the range of conditions for which it is seen as ethically and legally acceptable to test and apply genetic technologies to avoid disability.

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3 See, eg, Eyal Aharoni et al, 'Can Neurological Evidence Help Courts Assess Criminal Responsibility? Lessons from Law and Neuroscience' [2008] (1124) *ANNALS of the New York Academy of Sciences* 145; Joshua Greene and Jonathan Cohen, 'For the Law, Neuroscience Changes Nothing and Everything' (2004) 359 *Philosophical Transactions of the Royal Society B: Biological Sciences* 1775; Brent Garland and Mark S Frankel, 'Considering Convergence: A Policy Dialogue about Behavioral Genetics, Neuroscience, and Law' (2006) 69(1–2) *Law and Contemporary Problems* 101.

4 Freckelton reports that there is enough preliminary data to suggest what he terms 'a portrait of autistic offending, characterised by criminal activities' such as arson, stalking, sexual offenses, violence and neglect offences, and computer offences, which he argues may arise from the social deficits that characterise Asperger's Disorder, rather than malicious intent: Ian Freckelton, 'Asperger's Disorder and the Criminal Law' (2011) 18 *Journal of Law and Medicine* 677, 680–1. Discrimination under the *Disability Discrimination Act 1992* (Cth) is the largest category of complaint (38 per cent) to the Australian Human Rights Commission and a large proportion of these complaints relate to disabilities with a behavioural component: Australian Human Rights Commission, *Annual Report 2013–14* (Report, 4 March 2015) 132, 144.

In this article, we argue that rather than simply expanding the category of disability we need to complicate our understanding of normalcy so that disability and normalcy are not mutually exclusive categories. We start from the premise that difference is, in fact, normal and that much of the negative association with certain states of being comes about because of a hierarchy of normalcy where certain identities are valued and others are stigmatised. By insisting on the place of human biological variations within the broader category of the 'normal', our aim is to shed light on the biases that inform their negative categorisation. As we will show, social prejudice and systemic inequality sometimes form part of the diagnostic criteria of behavioural conditions even as they are increasingly grounded in biological explanations. This means that various characteristics or traits within the category of the 'normal' may be stigmatised as disabling because of assumptions that derive from those existing systemic forms of prejudice. Our focus on complicating and expanding what it means to be 'normal', and disrupting the artificial boundary between the categories of 'disability' and the presumptively 'normal' is challenged, however, by the fact that what constitutes 'normal' or 'abled' is mostly invisible in law, while competing definitions of 'disability' proliferate.

The concept of disability is used in law to include or exclude people across a range of areas. Despite this, there is no clear or consistent legal definition of 'disability'. Instead, the various legal concepts of disability operate in subterranean and sometimes contradictory ways. Indeed, research undertaken by Karpin and Savell in the area of genetic testing and abortion makes clear that definitions of disability are often opaque and may be applied differently by different actors in different clinical contexts.[5]

In Australian federal discrimination law the past, existing or imputed presence of a disability or its future possibility triggers a number of possible protections, allowing those who meet the threshold of 'disabled' to claim inclusion in areas of public life such as employment, education, transport and accommodation. These are areas from which they might otherwise be excluded.

In the area of reproductive technology, serious disability or its future possibility operates as a threshold test for access to, and exclusion from, some reproductive technology services.[6] Access to in vitro fertilisation, for example, to avoid the birth of a disabled child is one of the eligibility criteria in Victoria and Western Australia.[7] Furthermore, some clinics refuse to use embryos or gametes that they consider to be at risk of passing on a genetic condition.[8]

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5 See Isabel Karpin and Kristin Savell, *Perfecting Pregnancy: Law, Disability, and the Future of Reproduction* (Cambridge University Press, 2012).

6 See ibid ch 5.

7 See, eg, *Assisted Reproductive Treatment Act 2008* (Vic) s 10(2)(iii); *Human Reproductive Technology Act 1991* (WA) s 23(1)(a)(ii).

8 See the discussion on 'affected embryos' in Jenni Millbank et al, *Enhancing Reproductive Opportunity: A Study of Decision-Making Concerning Stored Embryos* (Report, January 2013) 152–5 <http://allaboutthe embryo.net/embryo_wp/?page_id=43>.

In this article, we explore how disability discrimination law, applied in the education context, has in practice imported stereotypes of disability and gender and further stigmatised people with challenging behaviour, even as it sets out to protect them. We also interrogate the way that genetic testing – which has been deployed to avoid autism spectrum disorder ('ASD') – is dependent on assumptions derived from existing systemic forms of gender prejudice about behaviour in the diagnosis of ASD. In particular, we consider the symptom of 'lack of empathy' attributed to people with ASD. It is important to acknowledge at the outset that, as with all human behaviour and embodiment, the subset of conditions that may be characterised by challenging behaviour are hugely diverse and behavioural characteristics may fluctuate or indeed not be present. A host of factors, such as the receptivity or hostility of the external environment, changes in medication or treatment, and the coexistence of other influences such as age or gender, may all play a role. Even the biology of a particular disorder is not static, and may contain multiple internal variations. Schizophrenia, for example, is described by researcher Cyndi Weickert as not just 'one disease but … four or five, or we don't even know how many diseases'.[9] Equally, ASD is a broad-spectrum disorder presenting with enormous variation – one author recently stated that 'there's more of a range within the spectrum than there is in "normality"'[10] – and challenging behaviour may or may not be a component of this variation. However, it is with respect to the behavioural manifestations of these disorders that the individual is most likely to come into contact, negatively, with the law and this is the focus of our research.

III BEHAVIOUR AS A DISABILITY

In recent years there has been a sharp increase in the diagnosis of Australians with disabilities that can include challenging behaviour, such as ASD or attention deficit hyperactivity disorder ('ADHD'). This sits alongside the scientific developments, described above, which increasingly trace various traits and behaviours to their neurological and genetic roots. The relationship between the two trends and, specifically, whether the increase in disabilities is due to increasing diagnosis based on expanded scientific and medical knowledge, is unclear. The number of Australians found to have ASD, for example, increased by 79 per cent between 2009 and 2012, and medication rates for ADHD

9 ABC Radio National, 'Schizophrenia – New Clues', *All in the Mind*, 5 October 2014 (Cyndi Weickert) <http://www.abc.net.au/radionational/programs/allinthemind/schizophrenia/5654952#transcript>.

10 Steve Silberman, quoted in Jenny Turner, 'The Man Who Wants Us To Embrace Autism', *The Guardian* (online), 29 August 2015, <http://www.theguardian.com/lifeandstyle/2015/aug/29/autism-spectrum-steve-silberman-neurotribes-legacy-autism-people-think-differently>. Steve Silberman is the author of *NeuroTribes: The Legacy of Autism and the Future of Neurodiversity* (Penguin Random House, 2015).

increased by 73 per cent from 2000 to 2011.[11] Diagnosis of complex disorders such as ASD; psychiatric disorders such as bipolar or anti-social personality disorder; and behaviour disorders such as conduct disorder, attention deficit/hyperactivity disorder and oppositional defiant disorder offer biological explanations that layer on or replace earlier social and cultural descriptions.[12] The more the sciences build knowledge about the biological bases of challenging behaviour, the more the category of 'disability' as grounded in the material body grows and solidifies. This is the case even when, as for the disabilities and disorders listed above, there are few if any reliable genetic or neurological biomarkers. Instead, the conviction that these biomarkers exist, and are simply waiting for proper scientific measurement and full revelation, means that these 'disorders' are, in the meantime, treated as biologically meaningful, and their future scope and consequences imagined in concrete detail. A recent collection by bioethicists Singh, Sinnott-Armstrong and Savalescu, for example, invites us to 'imagine that, instead of *post hoc* explanations, there was a robust and reliable scientific way to *predict* bad behavior of the sort that seriously violates social norms' and goes on to say that the authors will consider how 'evidence from brain scans, genetics, and other biological assays is likely to be used to diagnose and predict "bad" behavior'.[13]

Under the force of the conviction that future biomarkers for behaviour will emerge, in recent years law has been significantly influenced by these two burgeoning areas of medical science: neuroscience and genetics. While these are only two disciplines within a diverse and complex scientific field of behavioural research, they capture public (including legal) attention because of a seeming

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11 Australian Bureau of Statistics, *Autism in Australia* (Publication No 4428.0, 4 June 2012) <http://www.abs.gov.au/ausstats/abs@.nsf/mf/4428.0>; Rae Thomas, Geoffrey K Mitchell and Laura Batstra, 'Attention-Deficit/Hyperactivity Disorder: Are We Helping or Harming?' (2013) 347(7932) *British Medical Journal* 18; Agence France Presse, 'Experts Fear Surge in ADHD Diagnoses Leading to Over-Medication', *The Australian* (online), 6 November 2013 <http://www.theaustralian.com.au/news/health-science/experts-fear-surge-in-adhd-diagnoses-leading-to-over-medication/story-e6frg8y6-1226754054306>.

12 For examples of some of the literature linking these medical and biological descriptions to their social and cultural underpinnings, see Martyn Pickersgill, 'How Personality Became Treatable: The Mutual Constitution of Clinical Knowledge and Mental Health Law' (2013) 43 *Social Studies of Science* 30; Martyn Pickersgill, 'Standardising Antisocial Personality Disorder: The Social Shaping of a Psychiatric Technology' (2012) 34 *Sociology of Health & Illness* 544; Martyn Pickersgill, Sarah Cunningham-Burley and Paul Martin, 'Constituting Neurologic Subjects: Neuroscience, Subjectivity and the Mundane Significance of the Brain' (2011) 4 *Subjectivity* 346; Ilina Singh, 'A Disorder of Anger and Aggression: Children's Perspectives on Attention Deficit/Hyperactivity Disorder in the UK' (2011) 73 *Social Science & Medicine* 889; Ilina Singh, 'Will the "Real Boy" Please Behave: Dosing Dilemmas for Parents of Boys with ADHD' (2005) 5(3) *American Journal of Bioethics* 34; Karen O'Connell, 'Bad Boys' Brains: Law, Neuroscience and the Gender of "Aggressive" Behavior' in Sigrid Schmitz and Grit Höppner (eds), *Gendered Neurocultures: Feminist and Queer Perspectives on Current Brain Discourses* (Zaglossus, 2014); Susan C C Hawthorne, 'Institutionalized Intolerance of ADHD: Sources and Consequences' (2010) 25 *Hypatia* 504.

13 Ilina Singh and Walter P Sinnott-Armstrong, 'Introduction: Deviance, Classification, and Bioprediction' in Ilina Singh, Walter P Sinnott-Armstrong and Julian Savulescu (eds), *Bioprediction, Biomarkers, and Bad Behavior: Scientific, Legal, and Ethical Challenges* (Oxford University Press, 2013) 1, 2 (emphasis in original).

ability to provide greater certainty around the origins of behaviour. Behavioural neuroscience explores a growing scientific consensus around the relationship of brain to behaviour, in which the physical brain is understood as the origin of all individual behaviour. As Kuny-Slock and Hudziak write: '[b]y now even the most critical of thinkers will agree that all behavior is brain based'.[14] These developments and the corresponding confidence in their conclusions are driven primarily by the increasing availability and safety of the functional magnetic resonance imaging scan ('fMRI') and the fact that it can be used to study persons of all ages including prenatally.[15] The impact that brain scan evidence will have on law as the technology further develops has been much discussed.[16] Current population level neuroscientific evidence, for example, has been successfully used to argue for the abolition of the death penalty for adolescents in the United States ('US').[17]

Similarly, claims that we can identify genetic causes for conditions that have behavioural symptoms are proliferating. Even where there is no known genetic marker for a particular disorder, the scientific explanation can be framed in genetic terms. In the case of ASD, for example, one growing scientific view is that it is a genetically based neurological disorder that may also have environmental triggers.[18] Nevertheless, the only diagnostic tools we have are

14 Ana V Kuny-Slock and James J Hudziak, 'Genetic and Environmental Influences on Aggressive and Deviant Behavior' in Christopher R Thomas and Kayla Pope (eds), *The Origins of Antisocial Behavior: A Developmental Perspective* (Oxford University Press, 2012) 39, 42.

15 See Jay N Giedd et al, 'Neuroanatomic Maturation and Aggression during Adolescence' in Christopher R Thomas and Kayla Pope (eds), *The Origins of Antisocial Behavior: A Developmental Perspective* (Oxford University Press, 2012) 57; Vince D Calhoun and Mohammad R Arbabshirani, 'Neuroimaging-Based Automatic Classification of Schizophrenia' in Ilina Singh, Walter P Sinnott-Armstrong and Julian Savulescu (eds), *Bioprediction, Biomarkers, and Bad Behavior: Scientific, Legal, and Ethical Challenges* (Oxford University Press, 2013) 206; Kayla Pope and James Blair, 'The Use of fMRI Technology in Understanding the Neurobiological Basis of Conduct Disorder and Psychopathy in Children and Adolescents' in Christopher R Thomas and Kayla Pope (eds), *The Origins of Antisocial Behavior: A Developmental Perspective* (Oxford University Press, 2012) 71. See also Karen O'Connell, 'From Black Box to "Open" Brain: Law, Neuroimaging and Disability Discrimination' (2011) 20 *Griffith Law Review* 883.

16 See, eg, the collaborative work of Martha J Farah, J Benjamin Hutchinson, Elizabeth A Phelps and Anthony D Wagner on the use and possible future use of brain scans in lie detection: Martha J Farah et al, 'Functional MRI-Based Lie Detection: Scientific and Societal Challenges' (2014) 15 *Nature Reviews Neuroscience* 123.

17 Richard J Bonnie and Elizabeth S Scott, 'The Teenage Brain: Adolescent Brain Research and the Law' (2013) 22 *Current Directions in Psychological Science* 158, 160.

18 See C M Freitag, 'The Genetics of Autistic Disorders and Its Clinical Relevance: A Review of the Literature' (2007) 12 *Molecular Psychiatry* 2; M R Herbert et al, 'Autism and Environmental Genomics' (2006) 27 *NeuroToxicology* 671.

clinical tools that rely primarily on the observation of behaviour.[19] This, then, is a disorder that harnesses the certainty of science through preliminary claims about its origins, but remains entwined in social assumptions and biases. This means both that existing stereotypes can be cloaked by a seeming scientific objectivity, and that the science itself is subject to the influence of stereotypes. Indeed recent evidence suggests that some key scientific assumptions about the disorder may in fact result in a diagnostic bias. For instance, the assumption that the condition is more prevalent in boys has led to a possible under-diagnosis of girls with ASD.[20] In turn, these gendered assumptions filter into law, which has relied on the scientific claim of sex prevalence to permit sex selection using pre-implantation genetic diagnosis ('PGD') to screen for autism. We will return to this point below in Part III(A) of this article.

This neurological and genetic focus inscribes a kind of biological determinism that either overlooks the social and cultural context or favours a focus on biological consequences of social and cultural harms. This is particularly important for law as neuroscience and genetic explanations are increasingly cited in law reform, legal policy and court cases to establish the 'real' causes of behaviour and so begin to influence legal outcomes. Neuroscientific and genetic arguments, for example, have been central in recent calls for law and policy reform in the areas of early intervention for children in the United Kingdom ('UK') and the US.[21] As ideas about child brain development enter public discussions of behaviour they also pervade professional development and are communicated between professionals working in particular fields. Neuroscientific concepts are, therefore, beginning to infiltrate practice in the areas of education, foster care and juvenile justice.[22] Where science is intertwined with social and cultural assumptions, including stereotypes about certain types of people, these assumptions may be afforded the gravitas of science and given the status of 'fact'. It is crucial for law in particular not to overlook the social construction of 'disability', since law is one of the means by

19 Standard tests include the autism diagnostic interview (which focuses on behaviour in three main areas: 'qualities of reciprocal social interaction; communication and language; and restricted and repetitive, stereotyped interests and behaviors': Anne Le Couteur, Catherine Lord and Michael Rutter, *Autism Diagnostic Interview–Revised (ADI–R)* (2003) Autism Genetic Resource Exchange <https://research.agre.org/program/aboutadi.cfm>); the autism diagnostic observation schedule (which assesses communication, social interaction and play: see Autism Genetic Resource Exchange, *About the ADOS* (2015) <https://research.agre.org/program/aboutados.cfm>); as well as a host of other tests such as the childhood autism spectrum test and the development and wellbeing assessment: Torbjörn Falkmer et al, 'Diagnostic Procedures in Autism Spectrum Disorders: A Systematic Literature Review' (2013) 22 *European Child & Adolescent Psychiatry* 329.

20 John N Constantino and Tony Charman, 'Gender Bias, Female Resilience, and the Sex Ratio in Autism' (2012) 51 *Journal of the American Academy of Child & Adolescent Psychiatry* 756.

21 See Graham Allen, *Early Intervention: The Next Steps* (Independent Report to Her Majesty's Government, January 2011) <https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284086/early-intervention-next-steps2.pdf>; Jack P Shonkoff and Deborah A Phillips (eds), *From Neurons to Neighbourhoods: The Science of Early Childhood Development* (National Academy Press, 2000); Tineke Broer and Martyn Pickersgill, 'Targeting Brains, Producing Responsibilities: The Use of Neuroscience within British Social Policy' (2015) 132 *Social Science & Medicine* 54.

22 See generally Pickersgill, Cunningham-Burley and Martin, above n 12.

which this category is translated into concrete social outcomes, from equality rights to criminal sanctions.

Along with the direct impact of the genetic and brain sciences on law is an indirect impact through changes to the definitional boundaries of disability. Where law relies on disability as a category – as it does in our two examples of reproductive testing technology and discrimination law – changes to that category will inevitably change the application of the law, although not necessarily in a way that is transparent. Similarly, as the category of 'behavioural disability' is quite radically transformed through scientific expansion, laws that rely on that category will correspondingly change. One way in which we hope to complicate legal responses to this category shift is to recast the discussion so that what it is to be 'normal' is also critiqued. In this way, we hope to undo some of the stigmatising effects of these research outcomes. Indeed, under scrutiny, the category of behavioural disability is both under-conceptualised and highly constructed. Disability itself is a controversial idea and inflected or distorted by its associated levels of stigmatisation. The search for a consistent approach to its definition is ongoing, in law as in bioethics, philosophy and disability studies.[23] There are also significant definitional differences among the key institutions engaged with addressing disability.[24]

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23 For a useful bibliography and survey of this literature as it relates to prenatal testing and abortion, see Karpin and Savell, above n 5, ch 1. There is considerable literature on this topic and we cannot cite it all here. However, some key examples include: Rosemarie Garland-Thomson, 'Feminist Disability Studies' (2005) 30 *Signs: Journal of Women in Culture and Society* 1557; Eva Kittay, *Love's Labor: Essays on Women, Equality and Dependency* (Routledge, 2013); Fiona Kumari Campbell, 'Stalking Ableism: Using Disability to Expose "Abled" Narcissism' in Dan Goodley, Bill Hughes and Lennard Davis (eds), *Disability and Social Theory: New Developments and Directions* (Palgrave Macmillan, 2012) 212; Marcia H Rioux, Lee Ann Basser and Melinda Jones (eds), *Critical Perspectives on Human Rights and Disability Law* (Martinus Nijhoff Publishers, 2011); Jackie Leach Scully, *Disability Bioethics: Moral Bodies, Moral Difference* (Rowman & Littlefield, 2008); Adrienne Asch and David Wasserman, 'Where Is the Sin in Synecdoche? Prenatal Testing and the Parent–Child Relationship' in David Wasserman, Jerome Bickenbach and Robert Wachbroit (eds), *Quality of Life and Human Differences: Genetic Testing, Health Care and Disability* (Cambridge University Press, 2005) 172; Michael Oliver, *The Politics of Disablement* (Macmillan, 1990); Tom Shakespeare, *Disability Rights and Wrongs* (Routledge, 2006); Tom Koch, 'The Difference That Difference Makes: Bioethics and the Challenge of "Disability"' (2004) 29 *Journal of Medicine & Philosophy* 697; Anita Silvers, 'On the Possibility and Desirability of Constructing a Neutral Conception of Disability' (2003) 24 *Theoretical Medicine* 471; Ron Amundson, 'Against Normal Function' (2000) 31 *Studies in History and Philosophy of Biological and Biomedical Sciences* 33; Lennard J Davis (ed), *The Disability Studies Reader* (Routledge, 4th ed, 2013); Margrit Shildrick, 'The Disabled Body, Genealogy and Undecidability' (2005) 19 *Cultural Studies* 755, 756–7.

24 In the public health context for example, the World Health Organisation uses a complex multi-layered definition that looks at health context, body function, impairment, activity limitation and environmental and personal context to create classification systems such as the International Classification of Functioning, Disability and Health ('ICF') and the International Classification of Disease ('ICD'). See World Health Organisation, *International Classification of Functioning, Disability and Health* (World Health Organisation, 2001) 213, 242–3. The Institute of Medicine also relies on a multi-layered approach, but considers the pathology, impairment and functional limitation as factors filling out the concept of disability: Barbara M Altman, 'Disability Definitions, Models, Classification Schemes, and Applications' in Gary L Albrecht, Katherine Seelman and Michael Barry (eds), *Handbook of Disability Studies* (Sage Publications, 2001) 97.

Critical disability scholars have developed a complex critique of both the original medical model of disability (which conflates bodily impairment with disability), and the more recently developed social model of disability (which describes disability as the product of individuals with different abilities' interaction with social and political structures and environments).[25] In this way, it seeks to challenge the stigma associated with disability. Where the medical model prevails, disability can be located solely within the individual. Implicit in this framework is the idea that if a person's impairment could be redressed at the bodily level, the disability would cease to exist. The repair of a 'faulty' gene, for example, or a psychoactive drug that impacts on brain chemistry to affect levels of aggression, will remove the disabling condition, even as it leaves contributing factors such as poverty, access to services, or external stressors intact. The social model, however, challenges the location of disability 'inside' the body, and makes it clear that disability is contextual. In other words, what is labelled a disability, as opposed to merely a difference, is largely determined by external factors. The social model does not deny the existence of physical differences (impairments), but challenges the inevitability that those physical differences will lead to disability. More recently, disability scholars have critiqued the social model, arguing that with its attention to social responsibility, crucial aspects of embodied experience were neglected.[26] The social model has been criticised for failing to challenge the construction of impairment as static and unchanging, for relying on a simplistic division between 'impairment' and 'disability', as if social and bodily effects can be easily untangled,[27] and for its political assertion that disability can be 'removed' by social transformations, further disregarding the body.[28] Instead, authors such as Carlson describe a postmodern approach in which bodies, environments and societies are multiple elements in the co-creation of 'disability'.[29] Tremain exemplifies this critique when she states that '[t]ruth-discourses that purport to describe phenomena contribute to the construction of their objects'.[30] This latter critique is particularly important in the context of the redefinition of challenging behaviour as a disability, because social and health policy responses will be contingent on what kind of behaviour is valued or devalued in the specific environment and the identification of behavioural difference in the first place as a fixed characteristic. If the behaviour

25 See generally Tom Koch, 'Disability and Difference: Balancing Social and Physical Constructions' (2001) 27 *Journal of Medical Ethic*s 370.

26 See, eg, Susan Wendell, *The Rejected Body: Feminist Philosophical Reflections on Disability* (Routledge, 1996); Lennard J Davis, 'The End of Identity Politics and the Beginning of Dismodernism: On Disability as an Unstable Category' in Lennard J Davis (ed), *The Disability Studies Reader* (Routledge, 2nd ed, 2006) 231, 237–8; Stacy Alaimo and Susan Hekman (eds), *Material Feminisms* (Indiana University Press, 2008).

27 Shakespeare, above n 23, ch 2.

28 Scully, above n 23, 26.

29 Licia Carlson, *The Faces of Intellectual Disability: Philosophical Reflections* (Indiana University Press, 2010) 8.

30 Shelley Tremain, 'On the Government of Disability: Foucault, Power and the Subject of Impairment' in Lennard J Davis (ed), *The Disability Studies Reader* (Routledge, 2nd ed, 2006) 185, 187.

can be assimilated it will not be noticed. If, however, it is socially unacceptable or contextually unmanageable it will be pathologised as a disorder and the individual will be stigmatised.

Significantly, deficits in *social* function are part of the description of disabilities with symptoms involving challenging behaviour. For example, in the latest version of the *Diagnostic and Statistical Manual of Mental Disorders,* a diagnosis of ASD includes social or occupational impairment, along with deficits in social communication and interaction, and restricted, repetitive behaviours.[31] Behaviour itself is a complex concept. A recent public health definition of 'challenging behaviour' includes 'behaviour that is likely to seriously limit use of, or result in the person being denied access to, ordinary community facilities'.[32] This definition acknowledges that challenging behaviour is partly defined as behaviour that would result in public exclusion. It is thus behaviour that, by definition, carries with it social stigma. This means that the type of society into which one is born, or the type of public sphere one wants to inhabit, determines whether a person will be diagnosed with a medical 'disorder' associated with challenging behaviour. A failure to acknowledge this socially constructed and contextual nature of behavioural disabilities allows the scientific approach to imbue the category of 'disability' and its seeming opposite, 'normality', with certainty grounded in biological fact. Consequently, it becomes more difficult to argue for the value of different behavioural modes and to challenge the stigmatisation of variant personality types.

A nuanced legal definition of 'disability', or indeed 'normality', must take account of the social and cultural context in which scientific knowledge about bodies is embedded. Law and biotechnology are mutually constitutive and hold an uncomfortable and artificial line between what constitutes an acceptable and a stigmatised legal subject. This is evident in the two areas of law to which this article now turns: the regulation of pre-birth genetic testing technologies and disability discrimination law.

A Pre-Birth Genetic Testing for Behaviour as a Disability

New pre-birth genetic testing technologies play a significant role in the expansion of the concept of disability. At no other moment in history has it been possible to predict so much about risks to the health and wellbeing of our future children. However, as Karpin and Savell have noted:

> The provision of prenatal tests, for an ever-increasing array of conditions, occurs in a sociocultural climate of shifting normative ideals. This makes the basis of risk calculation in prenatal testing inherently unstable. There cannot be, if there ever was, a fixed or self-evident state of normalcy against which risk is measured.[33]

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31 American Psychiatric Association, *Diagnostic and Statistical Mental of Mental Disorders* (American Psychiatric Publishing, 5th ed, 2013) 50–59.

32 Eric Emerson, *Challenging Behaviour: Analysis and Intervention in People with Intellectual Disabilities* (Cambridge University Press, 1995) quoted in Eric Emerson and Stewart L Einfeld, *Challenging Behaviour* (Cambridge University Press, 3rd ed, 2011) 7.

33 Karpin and Savell, above n 5, 61.

Prospective parents have a range of pre-birth testing technologies available including pre-conception genetic testing, PGD and prenatal testing including morphology scans and fetal magnetic resonance imaging scans to assess brain function.[34] Furthermore, though in their infancy, new non-invasive prenatal tests that analyse cell free nucleic acids in maternal blood have made testing for a larger range of potential disorders as simple as a blood test. While mostly used, though not uncontroversially, for conditions that are already routinely tested such as Down syndrome (also known as trisomy 21), the evolution of the technology suggests that it may in the future be possible, if legally permitted, to scan the entire fetal DNA using a maternal blood sample.[35] This raises the spectre of the revelation of an ever expanding pool of potential abnormalities and, as Lippman has argued, 'where the conditions for which testing is done to identify risks keep increasing; the range of normal keeps decreasing'.[36] The aim of these tests is to give parents at risk of having an affected child the option of screening out potential children with disabilities and abnormalities by preventing their conception and birth. This can be a positive aim and there is no doubt that these technologies can offer potential parents significant benefit. However, we must be cautious. In the case of ASD the diagnostic tools are, as noted above, tests and observations that focus on behaviour and communication.[37] The autism diagnostic interview, for example, looks for stereotyped interests and behaviours as well as examining reciprocal social interaction and capacity for communication.[38] There is at present no genetic biomarker and the neurological measures are disputed.[39]

In Australia we do place *some* limits on the availability of *some* pre-birth genetic testing technologies. Indeed, regulation of genetic testing of embryos exists in the form of federal health guidelines (currently under review) that derive their enforceability from their link to statutory accreditation requirements and are

34 Pre-conception genetic testing determines whether a prospective parents is a carrier of an inheritable genetic condition. PGD tests an embryo prior to implantation for genetic disorders; prenatal testing provides probabilistic and diagnostic information about the presence of a morphological, chromosomal or genetic abnormality.

35 A group of scientists from Hong Kong University claim to have scanned the entire DNA of a fetus using maternal blood: see Y M Dennis Lo et al, 'Maternal Plasma DNA Sequencing Reveals the Genome-Wide Genetic and Mutational Profile of the Foetus' (2010) 2(61) *Science Translational Medicine* 61ra91 ; Tze Kin Lau et al, 'Secondary Findings from Non-invasive Prenatal Testing for Common Fetal Aneuploidies by Whole Genome Sequencing as a Clinical Service' (2013) 33 *Prenatal Diagnosis* 602; See also Diana W Bianchi et al, 'Genome-Wide Fetal Aneuploidy Detection by Maternal Plasma DNA Sequencing' (2012) 119 *Obstetrics & Gynecology* 890.

36 Abby Lippman, 'Choice as a Risk to Women's Health' (1999) 1 *Health, Risk & Society* 281, 284.

37 See above n 19.

38 Le Couteur, Lord and Rutter, above n 19.

39 See, eg, Martha R Herbert, 'Neuroimaging in Disorders of Social and Emotional Functioning: What Is the Question?' (2004) 19 *Journal of Child Neurology* 772; Herbert et al, above n 18.

supplemented by legislation in some state jurisdictions.[40] Although these federal guidelines currently limit the use of PGD to the identification of conditions that 'seriously harm the person to be born',[41] what constitutes a serious condition is not defined.[42] In practice, this has meant that determinations about when PGD is appropriate fall to the clinical geneticist and medical practitioner working in clinics in consultation with their patients. Although South Australia and Victoria briefly had legislation that involved further levels of regulatory scrutiny concerning the availability of PGD, that additional level of regulation has now been removed.[43] Western Australia continues to limit the availability of PGD to those instances where its Reproductive Technology Council has approved its use, however, on the whole, the seriousness criterion is considered a fairly broad limit for clinicians to keep in mind when providing PGD.[44]

Other forms of testing such as pre-conception and prenatal testing are not similarly regulated but are subject to guidelines published by the relevant medical practitioner colleges such as the Royal Australian and New Zealand College of Obstetricians and Gynaecologists.[45] Many of these tests simply offer possibilities or predictions rather than certainties. As noted above in the case of ASD, where heritability is scientifically asserted, there is in fact no identifiable biomarker. Nevertheless, PGD has been permitted to avoid the birth of a child with autism. Since there are no genetic or other biomarkers, reliance is placed on a declared sex prevalence in boys. PGD is then offered to allow deselection of male embryos where there is a family history of ASD. It is notable that in Australia sex selection using PGD for non-medical reasons is prohibited, although this is currently under review.[46] Sex selection using PGD for so-called medical reasons is, however, permissible. PGD using sex-selection to avoid ASD

40 See National Health and Medical Research Council ('NHMRC'), *Ethical Guidelines on the Use of Assisted Reproductive Technology in Clinical Practice and Research* (June 2007) <https://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/e78.pdf> ('*Ethical Guidelines*'); *Research Involving Human Embryos Act 2002* (Cth) s 11; *Human Reproductive Technology Act 1991* (WA); National Health and Medical Research Council, *Ethical Guidelines on the Use of Assisted Reproductive Technology in Clinical Practice and Research* (2015) <http://consultations.nhmrc.gov.au/public_consultations/assisted-reproductive-tech>

41 National Health and Medical Research Council, *Ethical Guidelines,* above n 40, [12.2].

42 Karpin and Savell, above n 5, 211, 213–14.

43 For a brief history of the South Australian and Victorian legislation, see Karpin and Savell, above n 5, ch 4.

44 Reproductive Technology Council (WA), *Policy on Approval of Diagnostic Procedures Involving Embryos* (March 2008) <http://www.rtc.org.au/clinics/docs/PGD_Policy_on_approval_of_diagnostic_procedures_involving_embryos.pdf>; Karpin and Savell, above n 5, ch 4, 197–209.

45 See, eg, Royal Australian and New Zealand College of Obstetricians and Gynaecologists, *Prenatal Screening for Fetal Abnormalities* (College Statement C-Obs 35, March 2013) <https://www.ranzcog.edu.au/college-statements-guidelines.html#obstetrics>.

46 See, eg, *Assisted Reproductive Treatment Act 2008* (Vic) s 28; Reproductive Technology Council, above n 44. See also *National Health and Medical Research Council, Ethical Guidelines on the Use of Assisted Reproductive Technology in Clinical Practice and Research* (2007) <https://www.nhmrc.gov.au/guidelines-publications/e78>. For the current review draft of the federal NHMRC guidelines, see <http://consultations.nhmrc.gov.au/files/consultations/drafts/artdraftethicalguidelines150722.pdf appendix 3a atto http://consultations.nhmrc.gov.au/public_consultations/assisted-reproductive-tech>.

has been specifically approved in Victoria and Western Australia under their state regulatory regimes. In other jurisdictions, where the federal guidelines apply, it will be a matter for the clinic to determine in consultation with the patient.[47] Interestingly, PGD and sex selection for ASD has been rejected in the UK by the Human Fertilisation and Embryology Authority Preimplantation Genetic Diagnosis Licensing Committee. One reason that the Committee did not allow this kind of screening was the advice it received from peer reviewers, who stated that 'even where a family has two affected male children this does not guarantee that female children will be free of the disorder, or indeed that in any particular family affected in this way that a female is at any less risk than a male'.[48]

However, it is not simply that there is no certainty that ASD will be avoided if male embryos are discarded but rather that the very definition of the disorder may itself contain gender bias. Conditions such as ASD, that are defined as such partly because they provoke a stigmatising response, manifesting in exclusion from the public sphere, also operate within a world of social stereotypes. These stereotypes are increasingly obscured the more the disability is characterised as 'biological'. In this case, this includes gender stereotypes. Revelations that gender stereotypes influence the diagnosis of autism have thrown doubt on the oft-cited statistic that autism is four times more prevalent in boys than girls.[49] For example, Constantino and Charman conducted a study that found that even with similar high levels of ASD traits, girls are less likely to be diagnosed than boys unless their conditions have additional cognitive and other behavioural deficits.[50]

Gillis-Buck and Richardson have also argued that 'male prevalence is significantly less pronounced in autistic individuals with intellectual disability, showing a sex ratio typical of all developmental disorders with mental impairments'.[51] Goldman points out that the male prevalence of 4:1 in autism is 'highly modulated by cognitive function' and that 'as intellectual functioning, namely IQ, decreases the skewness of the sex ratio decreases'.[52] It is worth considering whether this skew in the results has anything to do with gendered expectations and assumptions. Bombaci has argued that the overlap between the

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47 See Andrew Whitehouse, 'Prenatal Screening and Autism', *The Conversation* (online), 18 November 2013 <https://theconversation.com/prenatal-screening-and-autism-20395>; David J Amor and Carolyn Cameron, 'PGD Gender Selection for Non-mendelian Disorders with Unequal Sex Incidence' (2008) 23 *Human Reproduction* 729; Human Fertilisation and Embryology Authority Statutory Approvals Committee (Meeting Minutes Item 6, 30 January 2014) [11] <http://guide.hfea.gov.uk/guide/ShowPDF.aspx?ID=5518>. For a list of conditions for which PGD was given approval in Western Australia in 2012/13, see Western Australia Reproductive Technology Council, *Annual Report: 1 July 2012 to 30 June 2013* (Report, September 2013) 13 <http://www.rtc.org.au/reports/docs/AR2013.pdf>. Note that ASD is the first listed in the table titled 'Genetic condition': at 13.

48 Human Fertilisation and Embryology Authority Statutory Approvals Committee, above n 48, [11].

49 See Amor and Cameron, above n 48.

50 See Constantino and Charman, above n 20.

51 Eva M Gillis-Buck and Sarah S Richardson, 'Autism as a Biomedical Platform for Sex Differences Research' (2014) 9 *BioSocieties* 262, 268.

52 Sylvie Goldman, 'Opinion: Sex, Gender and the Diagnosis of Autism – A Biosocial View of the Male Preponderance' (2013) 7 *Research in Autism Spectrum Disorders* 675, 676.

cohort that are classified as Asperger and genius also aligns with a construction of genius that is gendered male.[53] In other words, it may be that girls are not diagnosed, not just because their autistic conditions go unrecognised, but also because their higher cognitive functioning or IQ go unnoticed. The prevalence of female genius is universally underplayed.

Goldman notes that to 'arrive at the diagnosis of autism, clinicians rely on a series of observations, and scores on descriptive behavioural tests based on the magnitude of departures from the expected norms at specific ages'.[54] These are, not surprisingly, susceptible to gender bias, or at a minimum, gendered assumptions. For example, Baron-Cohen who is one of the main authors of the standardised test for ASD, propounds a view that ASD is a form of 'extreme male brain'. He describes people with autism as hyper-systematisers, and attributes that quality to a male brain.[55] Female brains, on the other hand, he argues, are more inclined towards empathy.[56] Baron-Cohen has controversially made a connection between this so-called systematising masculine brain and the prevalence of men in fields such as mathematics and computing.[57] Feminist responses to this claim have, not surprisingly, challenged the basic premises of his argument, namely, that autistic people are hyper-systematisers and that systematising is a masculine brain trait. Specifically, they question the assumption that the brain can even be divided into two gendered types.[58] Interestingly, Baron-Cohen does not identify a similar or opposite pathology associated with an extreme female brain – hyper-empathisers.

These concerns take on greater significance as the ease of testing increases. As noted at the beginning of this Part, recent scientific breakthroughs – including improvements in PGD, the development of a single test to identify

53 Nancy Bombaci, 'Popular Discourses on the Neurotypical Woman: Conformity, Authority and Post-War Femininities' (2012) 23 *Women: A Cultural Review* 139, 144.

54 Goldman, above n 53, 676.

55 Simon Baron-Cohen, 'The Hyper-systemizing, Assertive Mating Theory of Autism' (2006) 30 *Progress in Neuro-Psychopharmocology and Biological Psychiatry* 865; Simon Baron-Cohen and Sally Wheelright, 'The Systemizing Quotient: An Investigation of Adults with Asperger Syndrome or High-Functioning Autism, and Normal Sex Differences' (2004) 34 *Journal of Autism and Developmental Disorders* 163, 170; Simon Baron-Cohen and Sally Wheelwright, 'The Empathy Quotient: An Investigation of Adults with Asperger Syndrome or High Functioning Autism, and Normal Sex Differences' (2004) 34 *Journal of Autism and Developmental Disorders* 163. See generally, Simon Baron-Cohen, 'Autism: The Empathizing–Systemizing (E–S) Theory' [2009] (1156) *ANNALS of the New York Academy of Sciences* 68.

56 See Baron-Cohen and Wheelright, 'The Systemizing Quotient', above n 56, 170; Baron-Cohen, 'Autism: The Empathizing–Systemizing (E–S) Theory', above n 56.

57 Baron-Cohen, 'Autism: The Empathizing–Systemizing (E–S) Theory', above n 56.

58 See, eg, Cordelia Fine, 'Explaining, or Sustaining, the Status Quo? The Potentially Self-Fulfilling Effects of "Hardwired" Accounts of Sex Differences' (2012) 5 *Neuroethics* 285; Jordynn Jack, '"The Extreme Male Brain?" Incrementum and the Rhetorical Gendering of Autism' (2011) 31(3) *Disability Studies Quarterly* <http://dsq-sds.org/article/view/1672/1599>; Jordynn Jack, 'Gender Copia: Feminist Rhetorical Perspectives on an Autistic Concept of Sex/Gender' (2012) 35 *Women's Studies in Communication* 1.

carrier status for hundreds of 'severe recessive childhood diseases',[59] and the development of a simple, early, non-invasive prenatal blood test – look set to continue their rapid adoption and evolution.[60] There is significant concern among disability rights activists that the categories of acceptable disability and difference are narrowing as screening options increase.[61] The availability of tests for individual conditions creates and perpetuates social perceptions that these conditions are fixed in the material body and not socially constructed, that they are 'harmful', and that their avoidance is possible. So-called behavioural disabilities are particularly susceptible to these claims because of the way in which 'bad behaviour' is highly stigmatised. In these instances, the stigma exists inside the disability and forms part of its very definition. As the coverage of these tests expands – from relatively simple single-gene tests, to complex, and arguably socially enmeshed forms of disability – urgent questions arise about how, if at all, these technologies should be regulated.

B Discrimination Law and Behaviour as a Disability

Discrimination law is an area in which the law explicitly purports to identify, acknowledge and redress stigmatised identities. It is the area of law where stigma is supposed to evoke legal protection and in Australia, serves a particularly significant role since it sits within the gap created by the absence of a constitutional guarantee of equality or legislated bill of rights. At the federal level, the anti-discrimination schemata is organised by categories of stigma: sex, race, disability and age.[62]

Under Australia's disability discrimination laws, the expansion of the biological understanding of behaviour has a potentially enormous impact. This is because the definition of 'disability' under the *Disability Discrimination Act 1992* (Cth) ('*DDA*') is so broad that it already covers a range of

59 See Callum J Bell et al, 'Carrier Testing for Severe Childhood Recessive Diseases by Next-Generation Sequencing' (2011) 3(65) *Science Translational Medicine* 65ra4.

60 Mathias Ehrich et al, 'Noninvasive Detection of Fetal Trisomy 21 by Sequencing of DNA in Maternal Blood: A Study in a Clinical Setting' (2011) 204 *American Journal of Obstetrics & Gynecology* 205.e1. See also Lori Haymon, 'Non-invasive Prenatal Genetic Diagnosis (NIPD)' (Paper, Council for Responsible Genetics, 2011) <http://www.councilforresponsiblegenetics.org/pagedocuments/e3rtqaovmu.pdf>.

61 See Fiona Kumari Campbell, *Contours of Ableism: The Production of Disability and Abledness* (Palgrave Macmillan, 2009); Adrienne Asch, 'Disability Equality and Prenatal Testing: Contradictory or Compatible?' (2003) 30 *Florida State University Law Review* 315; Abby Lippman, 'The Genetic Construction of Prenatal Testing: Choice, Consent or Conformity for Women?' in Karen H Rothenberg and Elizabeth J Thomson (eds), *Women and Prenatal Testing: Facing the Challenges of Genetic Technology* (Ohio State University Press, 1994) 9; David Wasserman, Jerome Bickenbach and Robert Wachbroit (eds), *Quality of Life and Human Difference: Genetic Testing, Health Care and Disability* (Cambridge University Press, 2005).

62 Federal anti-discrimination legislation includes: *Australian Human Rights Commission Act 1986* (Cth); *Age Discrimination Act 2004* (Cth); *Disability Discrimination Act 1992* (Cth) ('DDA'); *Racial Discrimination Act 1975* (Cth); *Sex Discrimination Act 1984* (Cth); *State anti-discrimination legislation includes: Discrimination Act 1991* (ACT); *Anti-Discrimination Act 1977* (NSW); *Anti-Discrimination Act 1996* (NT); *Anti-Discrimination Act 1991* (Qld); *Equal Opportunity Act 1984* (SA); *Anti-Discrimination Act 1998* (Tas); *Equal Opportunity Act 2010* (Vic); *Equal Opportunity Act 1984* (WA).

characteristics that would not necessarily be understood in other contexts as constituting a disability.[63] For example, 'disability' would include even a latent and asymptomatic genetic characteristic. As biology expands to capture a host of new behaviours, these should easily fall within the broad legislative definition of disability in the *DDA*, in theory radically expanding the ambit of discrimination law.

In Australia, disability discrimination protections reflect an attempt to approach disability in a nuanced way. The *DDA* takes a 'social model' approach to countering discrimination against people with disabilities by building in responsibility for discrimination at an organisational and wider social level. At its broadest, it allows for 'standards' to be developed in whole areas of public life, for example building, education and transport. The definition of disability in the *DDA* is also broad in relation to a behavioural disability. The legislation specifically protects people with both 'disturbed behaviour' and with behaviour that is a symptom or manifestation of a disability.[64] Yet in practice, discrimination law has struggled to deal with people with disabilities who exhibit challenging behaviours, and the past decade in particular has seen a spate of cases brought by young people with challenging behaviours, arguing that they were discriminated against at school.[65]

In the area of education, as well as the federal *DDA*, there is state and territory discrimination legislation which protects access to education on the basis of disability. Further, federal disability standards in the area of education are intended to give greater guidance to the education sector on implementing equality standards and are actionable under the *DDA*.[66] Australia's active role in supporting the United Nations *Convention on the Rights of Persons with Disabilities*,[67] which includes a strong statement on education rights, and human rights charters in Victoria and the Australian Capital Territory also indicates commitment to education for people with disabilities as a human right.[68] Yet, there remain many disturbing indications of a lack of rights in the area. There are ongoing reports of human rights abuses against young people with behavioural disabilities. A recent federal inquiry into the experiences of people with disabilities in Australia, including in education, reported that 29 per cent of submissions said that instead of providing skills and opportunity 'the education

63 See *DDA* s 4.

64 Ibid.

65 See, eg, *Lambert v Victoria* [2014] FCA 1064; *USL obo her son v Ballarat Christian College (Human Rights)* [2014] VCAT 623 (Unreported, Judge Harbison, 2 June 2014); *Kiefel v Victoria* [2013] FCA 1398; *AB v Ballarat Christian College (Human Rights)* [2013] VCAT 1790 (Unreported, Member Wentworth, 21 October 2013); *Sievwright v Victoria* [2013] FCA 964; *Abela v Victoria* [2013] FCA 832; *Walker v Victoria* [2012] FCAFC 38; *Walker v Victoria* (2011) 279 ALR 284; *Bowyer v Department of Education and Training (NSW)* [2010] NSWADT 152; *Mason v Methodist Ladies College* [2009] FMCA 570; *Victoria v Turner* (2009) 23 VR 110; *Ives v Kilvington Girls' Grammar Ltd* [2008] FMCA 1414.

66 Department of Education and Training (Cth), *Disability Standards for Education 2005 Plus Guidance Notes* (Standards, 17 March 2005). These standards are formulated under *DDA* s 31(1)(b).

67 *Convention on the Rights of Persons with Disabilities*, opened for signature 13 December 2006, 2515 UNTS 159 (entered into force 3 May 2008).

68 *Charter of Human Rights and Responsibilities Act 2009* (Vic); *Human Rights Act 2004* (ACT) s 27A.

system acts as a barrier to greater achievement and independence' in the lives of people with disabilities.[69]

Indeed, the discrimination law cases that have involved students with challenging behaviour attempting to access education services have all been decided against the student complainant. In part, this failure is because there are coexisting and sometimes conflicting legal obligations to protect other community members potentially harmed by disruptive, particularly aggressive, behaviour whether or not it originates from a disability.[70] The law of negligence, criminal assault laws and occupational health and safety regulations are all areas where schools legitimately have obligations to members of the school community who might be harmed by an aggressive student. However, courts and tribunals applying discrimination law seem particularly conflicted in dealing with students with behavioural disabilities (or disabilities manifesting in challenging behaviour). In the leading case on disability discrimination involving challenging behaviour, *Purvis v New South Wales*, the High Court of Australia struggled to balance the rights of a student with a disability who was displaying aggression and challenging behaviour with the needs of a school to continue to function as a safe educational environment.[71]

In *Purvis,* the High Court effectively shut down the future possibility of a successful direct discrimination complaint for a student excluded from school on the basis of challenging behaviour.[72] *Purvis* has been applied in discrimination cases since to deny protection to people with disabilities,[73] and it remains the most problematic and the most criticised of discrimination cases because of its

69 National People with Disabilities and Carer Council, 'Shut Out: The Experience of People with Disabilities and Their Families in Australia' (National Disability Strategy Consultation Report, 2009) 47. The Victorian Equal Opportunity and Human Rights Commission has reported on practices of exclusion and restraint used on school students with disabilities: see Victorian Equal Opportunity and Human Rights Commission, 'Held Back: The Experiences of Students with Disabilities in Victorian Schools' (Research Report, September 2012) 105–24. Cases of students with ASD being mistreated or abused in educational institutions have also surfaced in media reports and court cases: see, eg, Matthew Doran, 'Use of Cage for Boy with Autism at Canberra School Prompts Call for National Education Standard, *ABC News* (online), 3 April 2015 <http://www.abc.net.au/news/2015-04-03/experts-slam-need-to-cage-boy-wth-autism-at-canberra-school/6369470>.

70 With respect to tort and criminal law obligations, see Jim Jackson and Sally Varnham, *Law for Educators: School and University Law in Australia* (LexisNexis Butterworths, 2007) ch 12. With respect to occupational health and safety legislation, see, eg, *Department of Education and Training (NSW) v O'Sullivan* [2005] NSWIRComm 198; *Johnson v Department of Education and Training (NSW)* [2006] NSWIRComm 109.

71 (2003) 217 CLR 92 ('*Purvis*').

72 For critical analysis of *Purvis*, see Margaret Thornton, 'Disabling Discrimination Legislation: The High Court and Judicial Activism' (2009) 15(1) *Australian Journal of Human Rights* 1; Belinda Smith, 'From *Wardley* to *Purvis* – How Far Has Australian Anti-Discrimination Law Come in 30 Years?' (2008) 21 *Australian Journal of Labour Law* 3; Colin D Campbell, 'A Hard Case Making Bad Law: *Purvis v New South Wales* and the Role of the Comparator under the *Disability Discrimination Act 1992* (Cth)' (2007) 35 *Federal Law Review* 111; Samantha Edwards '*Purvis* in the High Court Behaviour, Disability and the Meaning of Direct Discrimination' (2004) 26 *Sydney Law Review* 639.

73 See, eg, *Power v Aboriginal Hostels Ltd* (2003) 133 FCR 254; *Zhang v University of Tasmania* (2009) 174 FCR 366.

narrow reading of direct discrimination law.[74] It also reflects profound discomfort with the idea that individuals with a behavioural disability, particularly one that manifests in aggressive behaviour, should be fully included in mainstream public life. Yet to return to the circular definition offered by Emerson and Einfeld that we cited above, what constitutes 'challenging' behaviour is that which leads to social exclusion.[75]

In *Purvis,* there is no doubt that the school found the behaviours of Daniel Hoggan – the young boy the subject of the case – challenging: 'his disabilities [were] manifested by unusual individual mannerisms and by behaviour such as rocking, humming and swearing'.[76] While the school took some measures to address these and other behavioural issues, Daniel was ultimately suspended from school for kicking teachers and fellow students. Yet, in the eventual High Court case, alongside discussing the actual facts of Daniel's behaviour, the judges imagine an inevitable escalation in the intensity of his uncontrolled behaviour towards sexual assault, arson or even murder. Chief Justice Gleeson and Justice Callinan, for example, raised the possibility of what would happen if Daniel sexually assaulted the girls, or burned down the school.[77]

It is the fear of the disabled body as irrational and out of control that, rather than inviting the protections established in law, triggers the speculation of frightening possibility. It is not the disabling condition that is the source of the stigma, but the unacknowledged fears and assumptions that attach to it. Daniel emerges from the High Court judgment stigmatised as terrifyingly out of control with the potential to commit heinous criminal acts such as sexual assault and arson rather than as a disabled child who required care and assistance to manage a challenging school environment.

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74 The *DDA* was amended in 2009, in part to address some of the problems arising from *Purvis*, including a clarification that the legislation applies to behaviour that is a symptom or manifestation of a disability; that a failure to make reasonable adjustments for a person with disabilities is unlawful discrimination; and providing a defence of 'unjustifiable hardship': see *Disability Discrimination and Other Human Rights Legislation Amendment Act 2009* (Cth) sch 2, pt 1, div 18. However, it is likely that the school in *Purvis* would have been able to argue the defence of 'unjustifiable hardship'. Further, the *Purvis* decision continues to apply to other areas of discrimination law. There have been only six discrimination law cases that have proceeded to the High Court, so *Purvis* remains an important marker in Australian discrimination law.

75 Eric Emerson and Stewart L Einfeld, *Challenging Behaviour* (Cambridge University Press, 3rd ed, 2011) 7.

76 *Purvis* (2003) 217 CLR 92, 148 [182] (Gummow, Hayne and Heydon JJ).

77 'If, for example, a child's disturbed behaviour consisted not of punching the boys but of sexually assaulting the girls, exactly the same problem [of being protected by discrimination law] would arise': Transcript of Proceedings, *Purvis v New South Wales* [2002] HCATrans 564 (5 November 2002) 332–4 (Gleeson CJ). Justice Callinan also said in the High Court judgement in *Purvis* that discrimination law cannot possibly apply to criminal or even 'quasi-criminal' behaviour:

> If it were otherwise, behaviour with a capacity to injure, indeed even kill someone, or to damage property (by, for example, burning a school down) could be excused, and the first respondent bound to tolerate it, or seek to abate it, no matter how difficult, disruptive, expensive, or ineffectual measures for abatement might be.

Purvis (2003) 217 CLR 92, 174 [271].

A negative aspect of discrimination law's use of categories of stigma, then, is that, in describing and demarcating such categories, it participates in their creation and brings into being the very thing it sets out to protect against. Yet in order to access legal protection, discrimination law requires people to assert an identity as 'disabled' even though they may not identify with that status or want to take it on. Arnold et al also point out that the framework of Australian disability discrimination law is 'presumptively negative', based as it is on what people are unable to do, rather than on an acceptance that all people have different abilities.[78] By taking on the label of 'disabled' a person is then subjected to all the stigmatising assumptions that reside within that category, even in the very decisions, such as *Purvis*, that are supposed to be applying law's protection against stigma.

The discrimination case law on behavioural disabilities demonstrates the way that a biological framework can potentially capture a host of characteristics in the framework of 'disability' and consequently law. A child can argue that he or she has a right to be included, and appeal to law to enforce that inclusion. However, as *was* the case with Daniel in *Purvis*, we can see that a broad legislative definition will not necessarily lead to greater inclusion where there are narrow understandings of disability in the institutions of law itself. Stigmas of gender, disability and criminality endure, and work to undermine the protection that law might offer.

IV EMBODYING INEQUALITY

As we noted at the start of this article, there has been a burgeoning of knowledge about the biological underpinnings of behaviour. Neuroimaging and behavioural genetics have begun to identify biological characteristics of people with challenging behaviour, and the rate at which such research is being undertaken suggests that this trend will gain momentum over the coming years. In particular, significant research effort has gone into identifying biomarkers for aggression and other challenging behaviours.[79] This research has filtered into the public domain as holding the potential to identify and regulate people who are

78 Bruce Arnold et al, 'It Just Doesn't Add Up: ADHD/ADD, The Workplace and Discrimination' (2010) 34 *Melbourne University Law Review* 359, 384.

79 See Adrian Raine et al, 'Neurodevelopmental Marker for Limbic Maldevelopment in Antisocial Personality Disorder and Psychopathy' (2010) 197 *British Journal of Psychiatry* 186; Essi Viding, Nathalie M G Fontaine and Henrik Larsson, 'Quantitative Genetic Studies of Psychopathic Traits in Minors: Review and Implications for the Law' in Kent A Kiehl and Walter P Sinnott-Armstrong (eds), *Handbook on Psychopathy and the Law* (Oxford University Press, 2013) 161; Sharon Niv and Laura A Baker, 'Genetic Markers for Antisocial Behavior' in Christopher R Thomas and Kayla Pope (eds), *The Origins of Antisocial Behavior: A Developmental Perspective* (Oxford University Press, 2012) 3; Giedd et al, above n 15; Kuny-Slock and Hudziak, above n 14; Thomas Nadelhoffer et al, 'Neuroprediction, Violence and the Law: Setting the Stage' (2012) 5 *Neuroethics* 67.

biologically primed for violence and antisociality.[80] Interest in what biologically constitutes psychopathy and other antisocial mental states and the idea, or fantasy, that it is possible to demarcate, using objective measures of the brain and genes, a group of people who carry the mark of criminality has gained hold.[81] Raine, a 'neurocriminologist' – a category of profession that has itself only come into being very recently – argues that '[u]ltimately, we should try to reach a point where it is possible to deal with repeated acts of violence as a clinical disorder'.[82]

Challenging behaviour is written into the physical body in a way it was not even a decade ago. However, it is crucial to remember that these bodies are not 'blank slates', they are bodies – and brains, and genes – that already bear the stigma of existing inequalities. Biomarkers of social concepts such as aggression or other undesirable traits are read through a body already characterised by assumptions about race, age, gender or disability.

This is illustrated in the research on 'subjective' versus 'normative' disabilities. The workers of authors including Graham, Sweller and Van Bergen on segregated schooling in the Australian context shows not only significant gender disparities in the much higher number of boys who are moved into segregated educational settings.[83] It also shows that disparities grow as more subjectivity is built into determining which child is defined as having a particular disability.[84] Their research shows that gender disparities between boys and girls are lowest where there is a physical disability or a more objectively measurable disability such as a 'severe' intellectual disability.[85] However, as more perception, observation and judgement are required in the definitional determination – as is the case with mild intellectual disability and emotional and behavioural disabilities – the gender differential becomes stark.[86] While, as we wrote in Part III(A) above, there is a tendency to under-diagnose girls in some types of disability such as ASD, there is a corresponding tendency in some cases to over-diagnose and segregate boys.[87] Similarly, international research on race in the diagnosis of disabilities shows that, in the school context, white students are diagnosed with different disabilities to other students. In the US context, white students are more likely to be classified as having 'autism', while African-

80 This is referred to as 'future dangerousness': see Christopher Slobogin, 'Bioprediction in Criminal Cases' in Ilina Singh, Walter P Sinnott-Amrstrong and Julian Savulescu (eds), *Bioprediction, Biomarkers, and Bad Behavior: Scientific, Legal, and Ethical Challenges* (Oxford University Press, 2013) 77, 77–8.

81 See Ilina Singh, Walter P Sinnott-Amrstrong and Julian Savulescu (eds), *Bioprediction, Biomarkers and, Bad Behavior: Scientific, Legal, and Ethical Challenges* (Oxford University Press, 2013).

82 Adrian Raine, 'Review: The Criminal Mind', *The Wall Street Journal* (New York), 26 April 2013, C1; Adrian Raine, *The Anatomy of Violence: The Biological Roots of Crime* (Random House, 2014).

83 Linda J Graham, Naomi Sweller and Penny Van Bergen, 'Detaining the Usual Suspects: Charting the Use of Segregated Settings in New South Wales Government Schools, Australia' (2010) 11 *Contemporary Issues in Early Childhood* 234.

84 See Penny Van Bergen et al, 'The Psychology of Containment: (Mis) Representing Emotional and Behavioural Difficulties in Australian Schools' (2015) 20 *Emotional & Behavioural Difficulties* 64; ibid.

85 See Graham, Sweller and Van Bergen, above n 84.

86 Ibid.

87 Nicole L Kreiser and Susan W White, 'ASD in Females: Are we Overstating the Gender Difference in Diagnosis?' (2014) 17 *Clinical Child and Family Psychology Review* 67.

American students are disproportionately classified as having 'emotional disturbance' or 'mental retardation'.[88]

Law has a part to play in attempting to redress existing categories of stigma. However, we must be vigilant to the way in which it may also shore up the very categories it seeks to undo. Discrimination law, as noted above, is intimately concerned with the stigmatised body. From skin[89] to sex,[90] breasts[91] to body odour,[92] and hair[93] to fat,[94] discrimination cases involve conflicts around stigma as it attaches to particular body parts and characteristics. It is only recently though, with the biotechnological developments discussed above, that behaviour too is seen primarily as originating in the body: in genes and in brains.

The focus on the body has a dual effect: on the one hand, since stigma attaches so clearly to particular aspects of the sexed, raced, disabled or aged body, the body's visibility can make the accompanying inequality or stigma more apparent. On the other hand, this visibility sometimes manifests as the 'hyper-visibility' that is part of the stigmatised identity of difference. It is the woman whose sexed body can be so disturbing in the workplace, the disabled body that disrupts at school and the 'non-disabled' male body that has the privilege of being unremarkable and invisible.[95] Furthermore, focusing on the body can limit the capacity to see the social and political construction of disability by returning to an idea of fixed and immutable impairment residing in the individual. Some of the research on brain plasticity, for example, could support a social construction of disability since it demonstrates that the physical brain is capable of change over time. This supports the fact that many disabilities, including behavioural disabilities, are not static bodily states, and that people move in and out of 'disability' and 'ability' over time. Yet brain plasticity research is not being applied in this way, and constructions of disability, or at least certain disabilities, seem to be stuck in a static model that reinforces stigma and inequality. The work done by Fein in this area shows that some neurological disabilities are seen as more static or 'structural' than others, heightening stereotypes around certain

88 Ruth Colker, *Disabled Education: A Critical Analysis of the Individuals with Disabilities Education Act* (New York University Press, 2013) 6. In Australia, data is not available to show the racial identities of school students with disabilities: see Graham, Sweller and Van Bergen, above n 84.

89 Racial discrimination includes discrimination based on colour: see *Racial Discrimination Act 1975* (Cth) s 9(1).

90 For the meaning of sexual harassment, see *Sex Discrimination Act 1984* (Cth) s 28A.

91 See, eg, *Caton v Richmond Club Ltd* [2003] NSWADT 202 (Unreported, Member Lees, Member Edwards and Member Farmer, 24 October 2003). In relation to discrimination on the basis of breastfeeding, see *Sex Discrimination Act 1984* (Cth) s 7AA.

92 In *Ball v Morgan* [2001] FMCA 127, a woman with a disability attempted to access a swingers' party. The respondent argued in part that she was rejected not because of the disability but because of her body odour: at [35]–[38].

93 In *Kuyken v Lay* (2013) 240 IR 89, male police officers were not discriminated against on the basis of a work rule that prohibited beards, other facial hair, or long hair.

94 In relation to discrimination on the basis of obesity, see, eg, *Cox v Public Transport Corporation (Vic)* (1992) EOC ¶92–401.

95 This is the privileged stance that Haraway refers to as the 'modest witness' of western science and philosophy: Donna J Haraway, *Modest_Witness@Second_Millennium.FemaleMan©_Meets_ OncoMouse™: Feminism and Technoscience* (Routledge, 1997) 24.

disabilities. Children with Asperger syndrome, for example, are seen as occupying a static, biological state, while emotionally disordered children are viewed as capable of change, and therefore more culpable for wrongdoing.[96]

Biotechnologies of the body, such as neuroscience and genetics, hold out the promise of making defining disabilities, including behavioural disabilities, more 'objective'. The suggestion is that they will reduce the implicit biases built into the processes of deciding who is disabled. By identifying biomarkers for a range of traits and behaviours, they offer a biological basis for much that was previously attributed to social, not scientific, explanations of behaviour. They also hold out the promise that for complex behavioural disabilities such as ASD they will in the future identify these markers, leading to greater objectivity and certainty, whereas diagnosis currently relies on subjective and potentially biased observation of behaviour. There may be some validity in this promise, given the data on how the more subjective the category of disability, the more that other biases distort who is included in that category. Nevertheless, this promise cannot be fulfilled while stigma pervades all aspects of legal and scientific practice. There is a sufficiently rich literature critiquing the objectivity of science when it comes to categories of stigma, which is sceptical about the biotechnological approach to disability. For example, we may have to counteract our own observational biases that conjure up the disorder in the first place before we are able to develop adequate criteria with which to identify biomarkers for that disorder. Kreiser and White, in relation to the diagnosis of girls with ASD, make the point that: 'improved characterization of the disorder at the behavioral level may increase precision in our ability to identify valid biomarkers of ASD, which are presumed to underlie the disorder but, at present, continue to evade us scientifically'.[97]

However, what is presumed to underlie the disorder is predetermined by the characterisation of the disorder as a disorder at the behavioural level in the first place.

V CONCLUSION: STIGMATISING THE NORMAL

In order for law to engage with biotechnologies of the body in ways that do not reinforce existing inequalities, it is imperative that the hidden stigmatisation that is implicit in all categories of law and science be subjected to scrutiny and addressed. Laws that deal with disability do so in ways that can obscure assumptions and prejudices about all kinds of characteristics – including disability itself. The scientific disciplines that are setting out to provide seemingly objective ways of defining disability, and in the process including a host of new behaviours in this category, are themselves inevitably marked by

96 Elizabeth Fein, 'Innocent Machines: Asperger's Syndrome and the Neurostructural Self' in Martyn Pickersgill and Ira Van Keulen (eds), *Sociological Reflections on the Neurosciences* (Emerald Group Publishing, 2012) 27, 43.

97 Kreiser and White, above n 88, 79.

these same assumptions, which are then incorporated into the biotechnological project and take on new force. The strength of these stigmatised assumptions may further intensify as genetic and neurological knowledge converge. The genetic and neurological bases of behaviour are intertwined, and will become further enmeshed as scientific research grows more nuanced. This convergence could mean an increasingly monolithic approach to behaviour that obscures the underlying stigmas we want to reveal.

'Disability' and 'normality' are commonly, and erroneously, seen as two categories that sit alongside each other, so that as one expands, the other contracts. However, in relation to biotechnologies of genetics and neuroscience, it is possible to argue that as these technologies increasingly define human characteristics in biological terms, and find ways to diagnose and respond to them as medical issues, they also expand the category of what may be defined as either normal or disabled. In place of this simplistic model of expansion and contraction, we need to intervene in that definitional enterprise to ensure an inclusive and destigmatising approach is foregrounded. We want to argue that the categories of 'disability' and 'normality' do not exist as stable categories in any sense. By revealing the rich variations across the spectrum of human behaviours, we can instead stigmatise what purports to be a neutral category of 'normal', while 'normalising' what has become the repository of difference: disability.

Law plays a part in stigmatising certain groups, whether it purports to be a neutral system of regulation, or an active intervention to redress privilege. Biotechnologies of the body can potentially assist in reforming rigid categories of identity because they form a disruption to current ways of thinking about bodies and behaviour. By attending to what is actually going on when we apply neuroscience or genetic knowledge to the regulation of behaviour, we can see the way that there is not a simple application of facts unfolding here but a whole system of valuing and devaluing that becomes entwined with both science and law. Stigma resides not only in particular bodies, but in all of the disciplines through which bodies are understood.