

# **The Brain-Sex Binary in Law:**

## **The influence of neurological theories of sex and gender on legal decision- making for trans and intersex minors**

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degree of

**Doctor of Philosophy**

Under the supervision of Distinguished Professor Isabel  
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# CERTIFICATE OF ORIGINAL AUTHORSHIP

I, Aileen Diana Kennedy, declare that this thesis is submitted in fulfilment of the requirements for the award of Doctor of Philosophy in the Faculty of Law at the University of Technology Sydney.

This thesis is wholly my own work unless otherwise referenced or acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis. This document has not been submitted for qualifications at any other academic institution. This research is supported by the Australian Government Research Training Program.

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## **Abstract**

The brain is the latest candidate in an historical search for a reliable and fixed biological marker of 'true sex' that has permeated every aspect of Western culture, including law. Different physical characteristics, from gonads to hormones to chromosomes to genitals, have previously been candidates for a fixed, universal, and authentic marker of sexed identity. Each of these has, in its time, done the work of configuring binary sexed biology as normal, natural, and pre-cultural. Each, in turn, has faltered or failed as a convincing biological anchor for the binary sex categories of male and female. Attention has most recently turned to the identification of a brain sex binary in the discipline of neuroscience. This thesis critiques this most recent turn as well as the sometimes uncritical endorsement of this perspective by law and legal actors.

Law, alongside medicine, has been an integral part of the quest for a biologically-fixed gender binary. It is a primary means of drawing regulatory and definitional boundaries of sexed identity. In this thesis I examine how law determines and differentiates 'male' and 'female' in a series of contested areas of sexed identity, namely those cases authorising medical interventions to alter the embodied sex characteristics of transgender and intersex minors. Ultimately I argue that law's reliance on neurology's 'brain sex binary' is no more helpful than earlier biological measures in ensuring just outcomes. Rather I argue that what is needed is greater acceptance of dynamic complexity and diversity in the domain of sex/gender. Law must retreat from its aspiration to create, define, and regulate artificially bounded sex categories of male and female which can lead to violations of embodied integrity and a betrayal of autonomous rights of intersex minors. Instead, law must allow liminal embodiment and identity to be normalised and accepted. That is not to argue that all intersex or transgender people have to remain 'liminal', but rather that law should support diversity of identity and embodiment and allow people to work out their own needs.

# Chapter 1

## 1.1 Introduction

Neurology is the latest candidate in an historical search for a reliable and fixed biological marker of 'true sex' that has permeated every aspect of Western culture, including law. The search for the body's 'true sex' marker reflects a view of biology as fixed, inexorable, universal and authentic. Different somatic characteristics, from gonads to hormones to chromosomes to genitals, have previously been candidates for the role of 'true sex' marker. Each of these has, in its time, done the work of configuring binary sexed biology as normal, natural and pre-cultural. Each, in turn, has faltered or failed. In our commitment to identifying a convincing biological anchor for binary sex categories of male and female, attention has most recently turned to the brain.

Law, alongside medicine, has been an integral part of this quest for a biologically-fixed gender binary, since it is a primary means of drawing regulatory and definitional boundaries of sexed identity. It is called upon to determine and differentiate between 'male' and 'female' in a series of contested areas of sexed identity, most recently through authorising medical interventions to alter the embodied sex characteristics of minors with gender dysphoria (as trans identity is referred to in the case law and medical literature), or intersex variations.

This thesis investigates the extent to which neurological sex differentiation, the belief that there is a distinct 'male' and 'female' brain - often referred to in the literature as 'brain organisation theory'<sup>1</sup> - has influenced legal perceptions of sex and gender. My thesis is that brain-sex binary theories are emerging as a primary contemporary influence on the understanding of gender identity in law, a manifestation of the current search for a definitive marker of true sex. I argue that, in relation to transgender minors, legal

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<sup>1</sup> Rebecca Jordan-Young, *Brainstorm: The Flaws in the Science of Sex Difference* (Harvard University Press, 2010).

authority has evolved to reflect a neurocultural perspective on gender identity and sexed embodiment. This perspective is inherently conservative and wedded to a concept of binary sex, even though it supports progressive approaches to transgender minors who seek to transition from one sex to another. By contrast, a neurological perspective is not prominent in judicial decisions relating to intersex children, where the discussion on gender identity is aligned to an outdated treatment protocol called 'optimal gender' theory,<sup>2</sup> which has been publicly denounced but continues to permeate and even dominate the medicalised perspective on intersex. This outdated treatment protocol emerged out of an earlier theory that focused on the genitals and the psyche as the central loci to construct a person's 'true sex.'

Brain organisation theory posits that biological sex differentiation occurs not just in the anatomy and physiology of the body, but also in the brain, producing distinctive male and female brains, though the sex of the body may not match the sex of the brain. Fetal hormone exposure changes the way the brain develops in utero and beyond. Pre-natal exposure to androgens will change the default female brain into a male brain. These changes - along masculine or feminine lines - influence the gender identity, sexual orientation, personality, interests, abilities, aptitudes and character of the person. The idea that our material brains, and hence our minds, embody a binary sex/gender is at the heart of brain organisation theory. Finding a neuro-biological explanation for binary gender is a modern manifestation of the ideology that the material body expresses and determines every person's sex and gender in two distinct classes of male and female.

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<sup>2</sup> John Money, Joan G Hampson and John L Hampson, 'Imprinting and the Establishment of Gender Role' (1957) 77(3) *Archives of Neurology and Psychiatry* 333; See also Senate Standing Committee on Community Affairs, Parliament of Australia, *Involuntary or Coerced Sterilisation of Intersex People in Australia* (Report No 2, 25 October 2013), 37 [3.7] ('Senate Committee Report').

Brain organisation theory is part of a broader mindset which ties sex and gender to a neuro-biological origin. I refer to this broader mindset as the ‘brain-sex binary.’<sup>3</sup>

### **1.1.1 Legal Focus – why these cases?**

In order to assess the impact of brain-sex binary theories on legal discourse it is vital to look at how it has been taken up in judicial decisions concerning gay, lesbian, trans and intersex people. This will provide insight into how the law constructs neurological knowledge and the gendered brain in relation to atypical sexual behaviour, identity or sexual orientation. To explain my focus on the Australian Family Court cases concerning trans and intersex minors, I consider what areas of law are explicitly concerned with understanding the development of sexed bodies and brains.

Although news, legislation and policy regarding same-sex relationships and identities have had a high profile in recent years, particularly in relation to same sex marriage, this has involved little or no judicial consideration of neurological or other ‘explanations’ of sexual orientation. Similarly, although there has been legislative attention to banning conversion therapy for gay, lesbian and trans people, this has not been the subject of judicial consideration. This gives little opportunity to assess the judicial uptake of brain-sex binary theories in relation to decisions about gay and lesbian people, even though those cohorts are prominent in the research studies and rhetoric.

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<sup>3</sup> I use the phrase ‘brain organisation theory’ when discussing the neuro-scientific theory that pre-natal hormones impact on the material soma, structure and organisation of the brain to produce brains that are distinctively male or female. I use the phrase ‘brain-sex binary’ when more broadly discussing this and other neurological research and practices that promote a brain-based concept of sex and gender, as well as the dissemination and adoption of these theories in other disciplines and domains such as law.

However, the biological origin of gender was explored at length in obiter dicta in *Re Kevin*,<sup>4</sup> a case from 2001 concerning the right of a trans man to marry as a man. In this case, Justice Chisholm outlined the fundamental points of brain organisation theory and explicitly endorsed the theory that ‘apart from the theory of brain sex differentiation, there is no available explanation of transsexuals like Kevin.’<sup>5</sup> This discussion was obiter because Chisholm J expressly did not wish to rely on an unproven theory as the basis for his decision, but he devotes an entire section of the judgment- some 16 pages out of an 86 page decision – to explain brain-sex binary theory and debate its merits. He concludes that he is satisfied that the Applicant’s gender dysphoria is caused by anomalous fetal androgen exposure.<sup>6</sup>

Following *Re Kevin* there have been subsequent cases concerning the legal definitions of sex, but these have not explored the origins or causes of trans identity or identified a neurological link. In 2011 in *AB & AH v State of Western Australia*<sup>7</sup> the High Court determined the criteria for a trans person to be legally recognised as a member of their sex of identity but the judgment makes no reference to etiology of gender diversity. In *NSW Registrar of Births, Deaths and Marriages v Norrie*,<sup>8</sup> Australian law recognised for the first time that a person’s sex/gender may be non-binary and permitted a non-binary sex/gender to be recorded as their legal sex. In both cases the reasons for judgment did not refer to brain-sex binary theories or indeed any theory about the development of gender identity or gender dysphoria. Now that same-sex marriage has been legalised it is unlikely that courts will be called on to consider in depth the legal definitions of men or

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<sup>4</sup> *Re Kevin (Validity of Marriage of Transsexual)* (2001) 1074 FamCA (*‘Re Kevin’*) [252].

<sup>5</sup> *Ibid*, 66 [252]. (*‘Re Kevin’*).

<sup>6</sup> *Re Kevin* (n 4), 82 [312]

<sup>7</sup> *AB & AH v State of Western Australia* (2011) 244 CLR 390.

<sup>8</sup> *NSW Registrar of Births, Deaths and Marriages v Norrie* (2014) 250 CLR 490.

women in the context of marriage law. Issues around the legal sex of trans people have not been resolved entirely, since each Australian jurisdiction imposes different requirements in regards to medical transitioning, before a person can change their legal sex.<sup>9</sup> Such issues are currently in flux as different states introduce legislation loosening the requirements for a person to change legal sex. Currently, however, there is no controversy prompting legal analysis of the definitions of male and female.

There is recent caselaw where courts have made decisions that directly relate to the development of gender identity. These cases concern applications by parents and caregivers for approval for medical interventions on minors in order to alter their sex characteristics in response to gender dysphoria (as it is called in the caselaw and medical evidence), on the one hand, and intersex variations on the other hand. These cases are heard in the Australian Family Court exercising the special medical jurisdiction, and where the judiciary most directly confronts competing theories about the nature of gender and its relationship to sex. These are the cases where brain-sex binary theories have emerged in legal discourse, and therefore are the focus of the analysis in this thesis.

### 1.1.2 Thesis structure

The thesis is organised into two main parts. Part 1, which includes chapters 2, 3 and 4, provides a background understanding and context which informs the later legal analysis considered in Part 2. Part 1 establishes the historical context for current attitudes about sex and gender, including neurological theories of gender and the significance of these ideas for the medicalised experiences of people with intersex variations. Part 2, which includes chapters 5, 6 and 7, turns to an analysis of the legal understanding of the sexed

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<sup>9</sup> *Births, Deaths and Marriages Registration Act 1995* (NSW) s32B; *Births, Deaths and Marriages Registration Act 1999* (Tas) s 28A; *Births, Deaths and Marriages Registration Act 1996* (Vic) s30A; *Births, Deaths and Marriages Registration Act 2003* (Qld) s22; *Births, Deaths and Marriages Registration Act 1996* (SA) s29I; *Births, Deaths and Marriages Registration Act 1996* (NT) s28B; *Births, Deaths and Marriages Registration Act 1997* (ACT) s24; *Gender Reassignment Act 2000* (WA) s14.

and gendered bodies of minors, as demonstrated by jurisprudence emerging out of decisions in the Family Court of Australia.

Chapter 2 considers the relationship between sex and gender, as it has been explored in science, feminism and the law in Western culture since the enlightenment. This perspective points to certain assumptions underlying the theories of sex and gender over time, assumptions that also underlie and impact on brain organisation research. The historical perspective suggests a cautious and critical approach to brain-sex binary theories.

Chapter 3 focuses on brain organisation research and theory, pointing to some problematic aspects of the research design as well as the interpretation and dissemination of results. The discussion explores different scientific theories about gender development. It explains why brain-sex binary research often focusses on trans people and people with intersex variations.

Chapter 4 focuses on intersex encounters with biomedicine, examining the medical literature concerned with gender identity development of people with intersex variations. It outlines medical practice aimed at 'curing' the anomalous intersex body using medical technologies such as genital surgeries, sterilisation and hormone therapy, and considers their probable impact on gender development.

I have not included a similar separate chapter on trans people because trans experience and relationship to the medical establishment are better understood and have been extensively theorised and discussed across many disciplines and domains. A broad understanding of the nature of trans identity and lived experience is prominent in social

media, popular discourse, academic writing and clinical literature.<sup>10</sup> I draw on this literature throughout my thesis and in particular in my discussion of the law's response to trans identity. However, because intersex lived experiences and identities are less well explored<sup>11</sup> I have included a separate chapter that attempts to lay out some of the fundamental understandings and misunderstandings. A lot of confusion and misunderstanding surrounds the meaning of intersex and the specific experiences of intersex embodiment and medicalisation.<sup>12</sup> For this reason I believe it is important and necessary to explore these issues in greater detail.

The second Part of the thesis provides a legal analysis of two groups of cases heard in the Australian Family Court under a special welfare jurisdiction. These cases concern medical interventions to alter the embodied sex characteristics of minors who are transgender or who have intersex variations.

In 1992 in *Secretary, Department of Health and Community Services (NT) v JWB and SMB (Marion's Case)*<sup>13</sup> the High Court decided that parents or guardians are not empowered to consent to some medical procedures performed on minors. This is the genesis of the special medical jurisdiction, wherein medical interventions beyond the scope of parental authority require court authorisation from the Australian Family Court. Until *Re Kelvin*<sup>14</sup> was decided in 2017, for 13 years the Australian Family Court was called on to authorise medical interventions to treat gender dysphoria. Over that time the Court decided over a hundred cases concerning trans minors. In the same period, the Court decided eight cases authorising medical interventions on minors with intersex variations.

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<sup>10</sup> See discussion and references in Chapters 3 and 6, with particular reference to Sections 3.2.1 and 6.1.

<sup>11</sup> See, for example, Danon L M 'The Body/Secret Dynamic: Life Experiences of Intersexed People in Israel' (2015) 5(2) *SAGE Open* 215824401558037.

<sup>12</sup> See, for example, discussion in Morgan Carpenter, 'The "Normalization" of Intersex Bodies and "Othering" of Intersex Identities in Australia' in Jens Scherpe, Anatol Dutta and Tobias Helms (eds), *The Legal Status of Intersex Persons* (Intersentia, 2018) 445.

<sup>13</sup> (1992) 175 CLR 218. ('*Marion's Case*')

<sup>14</sup> *Re Kelvin* (2017) FamCAFC 258. ('*Re Kelvin*')



Chapter 5 explores the involuntary sterilisation cases culminating in *Marion's Case*. I give detailed consideration to a range of contributing factors that foreshadow and inform my case analyses in chapters 6 and 7. These factors include: a rigorous human rights framework which explicitly challenges the medicalised perspective; a disability rights agenda focussed on social and institutional impediments rather than individualised and medicalised deficits; a focus on the rights of the minor and de-centering parental needs and entitlements; a concern for the right to embodied integrity<sup>15</sup> and future autonomy; and an adversarial process which ensures that contentious issues are fully ventilated.

The medical literature dealing with the origins and causes of gender dysphoria, and the literature examining brain organisation theory<sup>16</sup> in relation to trans people is examined in Chapter 6. This is followed by an analysis of the cases dealing with trans minors, focussing on the judicial approach to gender development and gender dysphoria. I undertake an analysis of the key cases to elucidate whether the judgments indicate an endorsement of a neurological understanding of gender identity development in line with brain-sex binary theories.

Chapter 7 analyses the cases approving medical interventions on children and minors with intersex variations. This chapter considers the judicial uptake of brain-sex binary theories and identifies the apparent preference for a competing theory of gender identity development which was first proposed in the 1950s. The impact of this competing theory, called optimal gender theory, is analysed.

Chapter 8 concludes.

In summary, this thesis demonstrates the incoherence in the legal understanding of gender identity development, which translates into inconsistent approaches to intersex and transgender issues. I show that this is attributable to legal deference to a medicalised

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<sup>15</sup> Marie Fox and Michael Thomson, 'Bodily Integrity, Embodiment, and the Regulation of Parental Choice' (2017) 44(4) *Journal of Law and Society* 501

<sup>16</sup> Jordan-Young (n 1).

understanding of the biological sources of sex and gender. The decisions regarding trans minors reflect an undeclared adherence to the brain-sex binary without addressing or taking into account its significant limitations or implications. The Australian Family Court has relied on the development of medical consensus about treatment protocols in its developing jurisprudence. Of equal concern is the dominance of an outdated and superceded gender theory and treatment protocol in the cases relating to medical interventions on intersex children and minors. Law's uncritical endorsement of a medicalised perspective has led to the adoption of two different conceptual frameworks regarding the origins and development of gender identity. Both frameworks, however, essentialise and naturalise binary sex.

This introductory chapter is organised as follows: the next section (1.1.3) explains some of the terminology that will be employed in the thesis; section 1.2 compares the medicalised experiences of the trans community and the intersex community, and their relationship with the medical establishment to explain the different prevailing attitudes to gender identity development across those two cohorts; section 1.3 addresses the limitations inherent in a non-scientific critique of scientific processes and research; and section 1.4 concludes.

### **1.1.3 Terminology**

Terminology in relation to sex, gender, intersex and transgender is fraught. In this field, terminology is freighted with meaning and implications which need to be identified, acknowledged, and, if necessary, avoided. Words can become encrusted with inference that may not be intended, particularly if the inferences are linked to unconscious bias.

The sex/gender dichotomy, which I critique in chapter 2 and throughout the thesis, developed as a means to distinguish different features of sex in a productive and significant way. The development of terms to identify these different features has been a powerful linguistic mechanism to deconstruct the hitherto monolithic conception of sex. However, these mechanisms have sometimes ossified into distinct conceptual domains.

The language of sex and gender, whereby 'gender' refers to cultural, social and psychological aspects and 'sex' refers to biology, breaks down in light of knowledge about their interconnectedness. For example, the plasticity of brain structures and functions means that the brain will change via experience, so that biological effects may be the result of culture and vice versa. A number of feminist theorists identify the problems and weaknesses of using language which reinforces the sex/gender distinction. In literature challenging the scientific colonisation of knowledge about biological sex, the term 'sex/gender' is often favoured as a means to acknowledge the dynamic interaction of biological and non-biological variables. Jordan-Young and Rumiati, for example, explain that

While conceptual differences between the two are important, 'sex' and 'gender' are, in practical terms, inseparable. Numerous empirical studies demonstrate the problematic task of distinguishing between sex and gender in practice.<sup>17</sup>

Although I recognise the fundamental inseparability of sex and gender effects, I nevertheless use the terms 'sex' and 'gender' to designate different aspects or features of sex in a way that is consistent with their use in modern feminist literature. This is not intended as an uncritical endorsement of this separation, but as a pragmatic recognition that this separation has come to dominate modern academic discourse and thinking. It is also useful in unravelling different dimensions of a complex process.

As explained in footnote 3 above, I use the phrase 'brain organisation theory' to refer specifically to the neuro-scientific theory that pre-natal hormones impact on the material soma, structure and organisation of the brain to produce brains that are distinctively male or female. I have coined the term 'brain-sex binary' to refer more broadly to brain organisation theory and other neurological research and practices that promote a brain-

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<sup>17</sup> Rebecca Jordan-Young and Raffaella I Rumiati, 'Hardwired for Sexism? Approaches to Sex/Gender in Neuroscience' (2012) 5(3) *Neuroethics* 305, 306; See also Daphna Joel et al, 'Sex beyond the genitalia: the human brain mosaic.' (2015) 112(50) *Proceedings of the National Academy of Sciences of the United States of America* 15468; Anelis Kaiser, 'Re-conceptualizing "sex" and "gender" in the human brain' (2012) 220(2) *Journal of Psychology* 130.

based concept of sex and gender, as well as the dissemination and adoption of these theories in other disciplines and domains such as law.

In the domain of intersex medicalisation, clinicians have favoured the use of diagnostic terms and classifications, many of which also reflect dominant theories about natural sex. For example, in the Victorian era, scientists and doctors based the taxonomic categories and terminology on the type of gonadal tissue present. If an intersex person had testicular tissue they were typed as a 'male pseudohermaphrodite' but if ovarian tissue was present, the person was typed as a 'female pseudohermaphrodite.' In cases where the person had one or more ovotestes they were typed as a 'true hermaphrodite.'<sup>18</sup> As the focus of medical typing has shifted to genetics, the terminology has also shifted. A 2006 Consensus Statement ('the Consensus Statement') developed by the Lawson Wilkins Pediatric Endocrine Society (LWPES) and the European Society for Paediatric Endocrinology (ESPE) addressed terminology and argued that 'A modern lexicon is needed to integrate progress in molecular genetic aspects of sex development.'<sup>19</sup> This new lexicon placed increasing emphasis on karyotype when referring to intersex variations. For example, people once classified as 'male pseudo hermaphrodite' are now described as having 46,XY DSD. As this demonstrates, the terminology has also shifted away from attaching a label to the person to attaching a label to the biomedical disorder. This seems to reflect an important move away from the attitude prominent '[s]ince the nineteenth century [that] hermaphroditism was not only understood as a disorder but referred to a problematic type of person.'<sup>20</sup>

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<sup>18</sup> The current commonly used medical term for this variation is 'ovotesticular disorder.' Osama Al-Omar, *Disorders of Sex Development* (4 December 2019) Medscape.  
<<https://emedicine.medscape.com/article/1015520-overview>.>

<sup>19</sup> Peter A Lee et al, 'Consensus Statement on Management of Intersex Disorders' (2006) 118(2) *Pediatrics* e488, e488 ('the Consensus Statement').

<sup>20</sup> Ellen Feder and Katrina Karkazis, 'What's in a Name? The Controversy Over "Disorders of Sex Development"' (2008) 38(5) *The Hastings Center Report* 33, 33.

The Consensus Statement rejects a range of terms including hermaphrodite, pseudo-hermaphrodite and intersex, claiming that such terms ‘are perceived as potentially pejorative by patients and can be confusing to practitioners and parents alike.’<sup>21</sup> When referring to intersex variations more broadly, the preferred medical term is ‘Disorders of Sex Development’ or ‘DSD.’<sup>22</sup>

This adopted lexicon has been controversial from its introduction. As Davis has argued,

Medical professional’s essentialist assumption that there is a rigid correlation between sex, gender, and sexuality resonates with the nomenclature shift from intersex to the pathologizing *disorder* of sex development...<sup>23</sup>

Following interviews of 62 stakeholders including intersex people, parents and medical professionals, Davis concludes that

Medical professionals needed to maintain their authority in the face of intersex activism, and they did so linguistically through a reinvention of the intersex diagnosis. The new DSD terminology constructs “sex” as a scientific phenomenon, and a binary one at that. Under such a frame, intersex experts neatly link intersexuality to science, and thus are able to justify surgery. This places intersexuality neatly into medical turf and safely away from critics of its medicalization. At the same time, the connection to science increases medical credibility, which in light of intersex activism, is necessary.<sup>24</sup>

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<sup>21</sup> Lee et al, (n 19) e488. The authority for this statement is an article in *British Medical Journal* from 2005 which makes no claims about terminology. It is rather a discussion of the then-common practice of non-disclosure of intersex status to patients on the basis of therapeutic privilege. The cited article provides no support for the claim that the term ‘intersex’ is perceived as pejorative. Jennifer Conn, Lynn Gillam and Gerard S Conway, ‘Ethics In Practice: Revealing The Diagnosis Of Androgen Insensitivity Syndrome In Adulthood’ (2005) 331(7517) *British Medical Journal* 628. This is also noted in Senate Committee Report, (n 2), 23 [2.6]-[2.7].

<sup>22</sup> Ibid.

<sup>23</sup> Georgiann Davis, ‘“DSD is a Perfectly Fine Term”: Reasserting Medical Authority through a Shift in Intersex Terminology’ in P McGann and D M Hutson (eds), *Sociology of Diagnosis* (Emerald Group Publishing, 2011) vol 12, 155-182, 170.

<sup>24</sup> Ibid 178.

The term ‘intersex’ has its own problematic history. Until the late 20<sup>th</sup> century, ‘intersex’ was understood to denote kinds of people who violated prevailing cultural understandings of male and female bodies, and for whom physicians sought to provide a coherent gender.’<sup>25</sup> As Feder and Karkazis comment, ‘[i]ntersex came to mean many things to different people, fueling widespread disagreement of what diagnoses – and thus who – counted as intersex.’<sup>26</sup> The term was reappropriated by intersex activists in the 1990s, who used it as a means to bring together and identify commonalities among groups with different diagnoses. There was and is ongoing contestation over the term, including concerns that it emphasises identity, or that it carries overtones of a third sex category, or that it stigmatizes. Nevertheless, it has been widely adopted by intersex communities, particularly activists and advocates and peer support groups at the forefront of the movement to demedicalize intersex and challenge medical human rights violations.

In 2013 the Australian Senate Standing Committee on Community Affairs conducted an inquiry into the involuntary medical sterilisation of intersex people. The Inquiry of the Senate Committee received submissions from advocacy and support groups OII Australia (now Intersex Human Rights Australia), A Gender Agenda, and Androgen Insensitivity Syndrome Support Group (AISSG) endorsing ‘intersex’ as appropriate terminology and rejecting ‘DSD’ or ‘disorders of sex difference.’<sup>27</sup> Following a lengthy and detailed consideration of the issues around terminology, the Senate Committee made the following recommendation:

The committee recommends that health professionals and health organisations review their use of the term ‘disorders of sexual

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<sup>25</sup> Feder and Karkazis, (n 20), 34.

<sup>26</sup> Ibid.

<sup>27</sup> Senate Committee Report (n 2) 25 fn24 and 26 [2.17]. Increasingly, DSD is recast as ‘difference of sex development’ or ‘diverse sex development’ as a means to depathologise and hence reinvigorate the acronym. This has not tended to be used by Australian advocates, however.

development', seeking to confine it to appropriate clinical contexts, and should use the terms 'intersex' or 'differences of sexual development' where it is intended to encompass genetic or phenotypic variations that do not necessarily require medical intervention in order to prevent harm to physical health.<sup>28</sup>

In this thesis I favour the use of the word 'intersex' or the phrases 'intersex variations' and 'variations of sex characteristics.' I use the term 'hermaphrodite' in discussion about historic attitudes and responses to intersex variations, consistent with contemporary language. In discussions of the medical literature I use diagnostic terminology where relevant. Medicalised diagnostic terms such as '46,XX CAH' are used to convey information about specific variations and to avoid confusion when analysing the medical literature.

The term 'endosex' is used to refer to people who are not intersex.

The terminology associated with gender diverse people is equally contentious and sensitive. Terminology changes rapidly and generally it is recommended to use the language preferred by the people or person you are addressing or discussing.<sup>29</sup> As that may not be possible in the context of an academic thesis, I have researched and adopted terminology that I believe to be respectful and appropriate. A Gender Agenda comment that

Language in this space can change in the blink of an eye based on what people feel more comfortable with. Trans is useful shorthand that acknowledges a history of different terminology.<sup>30</sup>

The Australian Human Rights Commission also adopts the word 'trans' as an appropriate descriptor.<sup>31</sup> However, other resources such as GLAAD's<sup>32</sup> reference guide recommend the

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<sup>28</sup> Ibid 27 [2.20].

<sup>29</sup> 'Tips for Allies of Transgender People', *GLAAD Media Institute*, (Web Page), November 2020 <https://www.glaad.org/transgender/allies>.

<sup>30</sup> 'Where to Start: Transgender' *A Gender Agenda Resources*, (Web Page) <https://genderrights.org.au/resources/where-to-start-transgender-brochure/>.

<sup>31</sup> 'Section 3 A note on terminology addressing sexual orientation and sex and/or gender identity discrimination: Consultation Report (2011)' *AHRC Our Work*, (Web page) < <https://humanrights.gov.au/our-work/section-3-note-terminology-addressing-sexual-orientation-and-sex-and-or-gender-identity>>.

<sup>32</sup> GLAAD is an acronym for 'Gay & Lesbian Alliance Against Defamation'.

word ‘trans’ should be used with care because its meaning is not well defined or understood. The word ‘trans’ is generally used as an umbrella term encompassing both transgender and transsexual identities.

In this thesis I use ‘trans’ or ‘transgender’ as a broad term to refer to people whose gender identity is different to their sex assigned at birth. Where possible I use the pronouns preferred by or appropriate to the person to whom I am referring. Even though ‘trans’ can also incorporate ‘transsexual’, I use that somewhat dated and medicalised term to describe a transgender person who has or wishes to ‘permanently change their bodies through medical interventions, including but not limited to hormones and/or surgeries.’<sup>33</sup> Medicalised terms such as ‘gender dysphoria’ and ‘gender identity dysphoria’ are used in the discussion of legal and medical literature, to maintain consistency and avoid confusion.

I use the term ‘cisgender’ to refer to people whose gender identity is consistent with their biological or assigned sex.

## 1.2 Comparing Trans and Intersex Issues

Both intersex and trans people are highly medicalised. The relationship between the intersex community and the medical profession is, however, entirely different from the relationship between the trans community and the medical profession. Davis argues that the key difference is agency:

Although surgeries on trans bodies are, in practice, similar to surgeries on intersex bodies, there is a notable difference in agency. Intersex people usually have little, if any, autonomy over the medical management of their bodies, as doctors frequently perform “normalizing” operations on children.<sup>34</sup>

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<sup>33</sup> ‘Glossary of Terms– Transgender’, *Glaad Media Reference Guide* (Web Page) <https://www.glaad.org/reference/transgender>.

<sup>34</sup> Georgiann Davis, *Contesting Intersex: The Dubious Diagnosis* (New York University Press, 2015) 30.



For trans people who undergo those same medical procedures, the providers of medical and surgical interventions are heroes who work to alleviate suffering and this work is celebrated by the trans community. While these medical procedures have many detractors and critics, for the most part the critics are not the patients or the trans community or its many allies and supporters.

By contrast, intersex advocates and activists tend to be highly critical of medical interventions practiced on intersex people. Some intersex people report positive reactions to their medical interventions,<sup>35</sup> clinicians refer to a silent majority of patients who are satisfied with the medical interventions they received<sup>36</sup> and there is evidence that some parents of intersex children who undergo medical intervention are supportive of current medical practices.<sup>37</sup> However, most intersex support groups and advocacy groups are highly critical of medical 'management' of intersex. The relationship between the relevant medical community and the most publicly visible sections of the intersex community (if not most of the community itself) is hostile and antagonistic. This has a very significant impact on how these communities are constructed in the public imagination, in public documents and in legal and medical discourse.

One such impact has been to normalise and regularise interventions to 'normalise' intersex bodies. As Davis argues,

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<sup>35</sup> Tiffany Jones et al, *Intersex: Stories and Statistics from Australia* (Open Book Publishers, 2016) 112.

<sup>36</sup> See, for example, H F L Meyer-Bahlburg et al, 'Attitudes of Adult 46,XY Intersex Persons to Clinical Management Policies' (2004) 171(4) *The Journal of Urology* 1615; Nike M M L Stikkelbroeck et al, 'The long term outcome of feminizing genital surgery for congenital adrenal hyperplasia: anatomical, functional and cosmetic outcomes, psychosexual development, and satisfaction in adult female patients' (2003) 16(5) *Journal of Pediatric and Adolescent Gynecology* 289.

<sup>37</sup> A Binet et al, 'Should we question early feminizing genitoplasty for patients with congenital adrenal hyperplasia and XX karyotype?' (2016) 51(3) *Journal of Pediatric Surgery* 465; Lane Palmer, 'The Push to Ban Intersex Medical Intervention' (2019) 39(3) *Urologic Nursing* 147.

technological advancements of the twentieth century, along with media attention on trans issues, made it easier for doctors to define intersex bodies, like trans bodies, as “abnormal” and in need of medical and surgical attention<sup>38</sup>

The mainstream medical establishment has worked hard to de-pathologise trans lives and bodies.<sup>39</sup> By contrast, a significant sector of the medical establishment explicitly pathologises intersex bodies, as reflected in the DSD terminology.

Another significant difference is the extent to which intersex and trans bodies contest the sex binary. While liminal intersex bodies challenge the natural status of a binary sex model, transsexuals who seek to transition to the sex that matches their gender identity do not. Although trans people increasingly espouse and promote concepts of gender fluidity and argue for an understanding of sex as variable rather than binary, the focus in this thesis is on transsexual minors who seek to medically transition from male to female or vice versa using gender affirming medical technology. This cohort have a greater presence in medical and legal decision making, since accessing the medical technology requires persuading medical and legal gatekeepers of the legitimacy of access.<sup>40</sup> Within this cohort, the need to medically shape the body to properly express one’s gender identity sits comfortably within the framework of binary sex.

Another important difference is how gender identity is understood and its significance in the decision-making process. For trans minors seeking to transition using medical technology, the prevalent understanding is that their gender identity is fully established from a very young age and is thereafter stable, resilient and fixed. Although it expresses a gender incongruous with the sex characteristics of the body, the development of an

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<sup>38</sup> Davis, *Contesting Intersex: The Dubious Diagnosis* (n 34) 30.

<sup>39</sup> As evidenced by the changes to the framing of gender dysphoria in the most current edition of the Diagnostic and Statistics Manual. American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 5 ed, 2013) (*‘DSM-V’*).

<sup>40</sup> Since 2017 the decision in *Re Kelvin* made it unnecessary for minors to seek Court approval to access medical technologies except in select cases such as where there is a dispute among the minor, his or her parent or parents or guardian, and the medical professionals providing access. *Re Kelvin* (n 14).

innate and rigid gender identity is understood as a natural and normal process. The sex expression of the body is malleable, but gender identity is static.

By contrast, the gender identity of intersex people is configured to be as malleable as the sexed body.

But if there were technical similarities between surgeries for transsexual adults and those performed on intersex infants, there was also a vital difference in their respective therapeutic aims. Whereas the former were changes of sex to match the category in which patients felt they already belonged, the latter were tools for the assignment of gender in the first place. ... genital plasticity was supposed in both cases, but only in the case of intersex was gender plasticity equally important.<sup>41</sup>

Within the medicalised perspective, only medical interventions can 'cure' the liminality of the intersex body and identity. Shaping the body to an appearance of orthodox stereotypical sex – unambiguously male or unambiguously female – provides an opportunity for gender identity to settle into the assigned sex. Unlike the gender identity of trans minors, the gender identity of intersex people must be manipulated and wrought to help it finally resolve. This becomes evident in a critical reading of the Australian Family Court cases authorising medical interventions.

### 1.3 Critiquing Biomedical Research

In this thesis I argue that brain-sex binary theories are the latest manifestation of a process of searching for a definitive biological sex determinant. Characterising brain-sex binary theories in this way does not suggest that the research is illegitimate or without merit. However it does suggest a tendency to approach the issue with a pre-determined belief in the neuro-biological basis of sex and gender differences. Such an approach has dogged bioscientific studies of sex differences for centuries and has distorted and handicapped scientific knowledge and understanding in relevant domains, including law. It suggests that we need to approach the research and conclusions with great caution, and

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<sup>41</sup> Lisa Downing, Iain Morland and Nikki Sullivan, *Fuckology: Critical Essays on John Money's Diagnostic Concepts* (University of Chicago Press, Kindle edition, 2015) Location 1293.

be eagle-eyed in identifying distortions and mistakes caused by this bias. Although science can never be 'pure' and unalloyed with social and cultural beliefs, it is incumbent on researchers, as well as those relying on the research such as judges and lawyers, to be aware of the dangers and pitfalls of approaching a research issue with firmly held but unchecked assumptions and expectations.

Throughout the thesis I offer a range of critiques of different scientific and bio-medical attitudes, research and practices. The intention is not to claim expertise in these disciplines, but to critique the *non-medical* claims and implications that arise out of the research. Further, there are points at which the discussion might imply that different areas of science and medical practice are monolithic and different theories and practices are hegemonic. Pretending that theory and practice within different disciplines can be summarised neatly within a few paragraphs is reductive. It is important to explain and emphasize that different theories and practices outlined in the thesis represent significant, sometimes dominant strands of thinking or practice within a particular discipline, however they do not represent the views and actions of all relevant players. The dominant or central research theories and strands are often contentious and contested within the disciplines, and very often my analysis calls heavily on competing theories and ideas to address key issues in the dominant strands.

Many of the critiques I offer are not primarily aimed at the scientific endeavours and methodologies themselves, but at the entanglements of science and medicine with questions and issues that have inherently broader implications. Very often the entanglement of science and medicine with legal, social, political and cultural issues is understood or configured as a purely or a largely scientific or bio-medical question. This is evidenced in, for example, clinical literature concerning intersex variations and issues relating to best sex of assignment. The literature is rife with unexamined assumptions about what is important and central to sex selection, such as the assumption that fertility is more important for children assigned female, whereas penis size is central for children assigned male. These assumptions are presented as primarily objective biomedical

considerations. This entanglement is endemic in bioscientific research on the nature of sex and gender. In developing a legal analysis, I am also engaging in a critical investigation that identifies and teases out the non-medical issues for careful evaluation and understanding. In using and sanctioning a scientific perspective, law and legal discourse must be informed by the critical work necessary to disentangle assumptions and biases about sex and gender. This is the intent and focus of the analysis of various bio-medical and bio-scientific theories.

These caveats are included at various relevant points throughout the thesis, but are foregrounded here at the outset and should be understood as a fundamental constraint that operates throughout the analysis.

## **1.4 Conclusion**

A keystone of the thesis is the legal analyses of cases in chapters 6 and 7, where I undertake a close doctrinal reading and a thematic analysis of cases dealing with applications for approval to alter the sex characteristics of trans minors to align with their gender identity and of intersex minors to bolster and shore up their assigned sex. However, both sets of cases, while relatively straightforward and uncontroversial on their face, contain layers of history and implication which need to be teased apart and amplified to reveal potential meaning and consequences. Intersex and transgender lives, identities and experiences have a dense, weighty history and valence in Australian law, culture and medicine. Intersex and transgender embodiment is a lightning rod for controversies about the nature of sex and gender, and these controversies are settled by law, even if law does not recognise or name the issues at stake. The first Part of the thesis is constructed to untangle and expose the underlying significance of the decisions, language and doctrines in the cases. This background explication leading up to the legal analyses is important in scene-setting to make sense of how the cases speak to different theories and conceptions of sex and gender. This context is necessary to inform the analysis of law and legal decisions.

I begin this explication in chapter 2 by exploring popular, legal, and bio-scientific conceptions of sex, gender and the relationship between the two. Much of this exploration uses the framework of medical interventions and determinations about intersex embodiment to demonstrate the theories driving the medical approach.

## **Part 1**

# **Establishing the Context and History of Australian Law on Sex and Gender**

## Chapter 2 Sex, Gender and Gender Identity

### 2.1 Introduction

Despite popular perceptions of gender as a universal concept that spans time, place and culture,<sup>42</sup> gender as a category is a modern invention. Similarly, the idea of 'natural' sex has a history which locates our current conception within a particular time and place. This is supported by a recognition that a Western conception of 'natural' sex has undergone massive shifts over the last few hundred years. The relationship between sex and gender is an important element in these shifts, and fundamentally controversial in modern science and biology as well as political thought.

One common contemporary framework distinguishes between sex as biological, and gender as the performance of social roles linked to biological sex.<sup>43</sup> Across many discourses and taxonomies, including politically progressive discourses such as mainstream feminist theory, sex is equated with biology and gender with psychology, identity and culture.

The purely biological nature of sex is an assumption that permeates this distinction. However, historically, there is support for the idea that gender too is biologically determined. In this model, differentiation of behaviour, interests, instincts and abilities between men and women is innate and inherent because it resides in the body. As Vidal argues, 'The idea that biology is a major determining factor for cognition and behavioural gender differentiation is still very much alive.'<sup>44</sup> Although prominent, this idea is fiercely disputed.<sup>45</sup> In this heated debate neuroscience

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<sup>42</sup> Jemima Repo, 'The Biopolitical Birth of Gender: Social Control, Hermaphroditism, and the New Sexual Apparatus' (2013) 38(3) *Alternatives* 228.

<sup>43</sup> Mikkola, (n 45).

<sup>44</sup> Catherine Vidal, 'The Sexed Brain: Between Science and Ideology' (2012) 5(3) *Neuroethics* 295, 295.

<sup>45</sup> Anne Fausto-Sterling, 'The five sexes: why male and female are not enough' (1993) 33(2) *The Sciences* 20; Gina Rippon, *The Gendered Brain: the New Neuroscience that shatters the myth of the female brain* (The Bodley Head, 2019); Jordan-Young, (n 1); Mari Mikkola, *Feminist Perspectives on Sex and Gender* (2019) Edward N Zalta (ed.) <<https://plato.stanford.edu/archives/fall2019/entries/feminism-gender/>>.



has emerged as the latest candidate for the biological grounding of sex and gender differences between men and women.

A reductive version of the above theory aligning gender and social performance of sexed identity is tied to a separate but related dichotomy that configures biology as inexorable and unchanging in contrast to culture which is shifting and flexible. There is a tendency to conceptualise biology as more innate and, in some cases, more authentic than socially ascribed or culturally shaped identity and psychology. These dualisms echo other fundamental post-enlightenment dualisms such as mind/body and nature/culture,<sup>46</sup> which are perceived within post-enlightenment Western culture to be in opposition and tension.<sup>47</sup>

These oppositions and schema which dichotomise nature and nurture, mind and body, and sex and gender (and, as I discuss later in this chapter, male and female) generate various ideas about the nature of sex, gender and gender identity. Exploring feminist responses to the material sexed body provides a theoretical framework from which to analyse the emergence of neuroscience as a lens through which we view sex, gender and gender identity. This theoretic framework is central to my thesis, namely that the cultural uptake of a neuroscientific worldview is increasingly influential in understanding gender identity (like sex) as a biological artefact. Among lawyers a biological account of gender identity development can render it more 'authentic', inexorable and immutable. This in turn adds weight to the search for 'true sex' in the body, a quest which has its roots in post-enlightenment concepts of sex and gender. My thesis is that brain-sex binary theories are the latest manifestation of this search for the biological determinant of 'true sex,' and as such, the latest to be used in legal decision-making around treatment of transgender and intersex minors.

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<sup>46</sup> Although the words 'nature' and 'culture' are used throughout this chapter as though they are unproblematic categories that do not require investigation or explanation, this is because of the restrictions implicit in this project. I am using the terminology in a way that deliberately triggers the dualisms that have been invested in these concepts, conscious of the artificiality and reductivism inherent in this use. This thesis sets out to complicate and disturb a complacent understanding of the dualism of man and woman; male and female, and sex and gender. Not problematising other dualisms should not be taken as endorsement of them.

<sup>47</sup> Margaret Lock, 'Cultivating the Body: Anthropology and Epistemologies of Bodily Practice and Knowledge' (1993) 22 *Annual Review of Anthropology* 133, 135.

In this chapter I will explore some of the assumptions that undergird the model of distinct domains of sex and gender. I will then consider the project of corporeal feminisms, especially as they set out to trouble biological understandings of the sex binary and the sex/gender system. I will examine various moments in the scientific pursuit of a genuine and ultimate biological marker of 'true sex'. Finally, I contrast the medical framework for understanding intersexed embodiment with the legal frameworks established over the same period.

## 2.2 Biological Determinism

The dominant, though by no means universal, view since the eighteenth century has been that there are two stable, incommensurable, opposite sexes and that the political, economic and cultural lives of men and women, their gender roles, are somehow based on these "facts." Biology – the stable, ahistorical, sexed body – is understood to be the epistemic foundation for prescriptive claims about the social order.<sup>48</sup>

Biological determinism was the predominant understanding of sex in Western philosophy and culture until around the mid-20<sup>th</sup> century. Biological determinism is the theory that gender is determined by biological sex. Traditional cultural, scientific, legal and medical ideas about sex conflate sex and gender and understand them to be grounded in and caused by biology. The view posits that biology determines not only a person's biological sex traits, but also sexuality, behaviour, desires, personality and identity. A 17<sup>th</sup> century tract on the biological differences between women and men, *On the Evolution of Sex* by Geddes and Thompson,

argued that social, psychological and behavioural traits were caused by metabolic state. Women supposedly conserve energy (being 'anabolic') and this makes them passive, conservative, sluggish, stable and uninterested in politics. Men expend their surplus energy (being 'katabolic') and this makes them eager, energetic, passionate, variable and, thereby, interested in political and social matters. These biological 'facts' about metabolic states were used not only to explain behavioural differences between women and men but also to justify what our social and political arrangements ought to be.<sup>49</sup>

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<sup>48</sup> Thomas Laqueur, *Making Sex: Body and Gender from the Greeks to Freud* (Harvard University Press, 1990), 6.

<sup>49</sup> Mikkola, (n 45) [1.1].

Until the mid-20<sup>th</sup> century there was no conception that characteristics like sex, gender and sexual orientation could be teased apart and treated as separable domains. It was assumed that gender roles, gender identity, sexuality and sexual orientation followed and were inextricably tied to biological sex. Any expression of gender or sexuality which diverted from orthodox roles and behaviour was symptomatic of dysfunction or 'inversion' of the natural order. Biological sex was not a disposition, it was a determiner.

This fed into the scientific and legal literature, as well as the widespread public perception, that women's roles and behaviour were hardwired in the body and pre-determined. For example, Lord Denning MR argued in his book *the Due Process of Law*

No matter how you may dispute and argue, you cannot alter the fact that women are different from men. The principal task in the life of women is to bear and rear children: and it is a task which occupies the best years of their lives. The man's part in bringing up children is no doubt as important as hers, but of necessity he cannot devote so much time to it. He is physically the stronger and she the weaker. He is temperamentally the more aggressive and she the more submissive. It is he who takes the initiative and she who responds... She in her sphere does work as useful as man does in his...<sup>50</sup>

These normative claims, made by one of the most significant jurists of the period, about the natural and inherent differences between men and women were supported by contemporary medical and scientific theory.

In writing about Victorian medical approaches to intersex people, Alice Dreger explains the methods adopted by medical and scientific men who were tasked with determining the 'true sex' of a person whose external anatomy was 'ambiguous':

They considered things like gonads and genitalia and breast size, but many of them also took into consideration signs that we now think of as 'gendered traits' and 'sexuality': Barnes, for example, offered information from his patient's mother that the questionable subject's "tastes were decidedly

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<sup>50</sup> Alfred Thomas Denning, *The Due Process of Law* (Butterworths, 1980) 193.

feminine, but she had never shewn any partiality towards the male sex. She was affectionate and gentle towards her brother and sisters.”<sup>51</sup>

Reis recounts similar approaches in colonial America.<sup>52</sup>

Any departure from a strict dichotomous expression of male and female was seen not only as a perversion, but also as an ‘inversion’.<sup>53</sup> Homosexuality was seen as an ‘inversion’ of a person’s sexual desires from the norm established by their biology. This complemented the belief that men and women were biologically programmed to perform different roles. Sex roles which harmonised with biological sex were considered normal and natural.

## 2.3 The Sex-Gender Distinction

In the mid-20<sup>th</sup> century, feminists sought to challenge this perspective. The distinction between sex and gender (and the language to describe that distinction) is of relatively recent origin, although those origins are contested.<sup>54</sup> Most agree that the distinction arose in the mid-20<sup>th</sup> century, in the context of clinical interventions on transsexual and intersex people. This distinction was taken up by feminists who sought to challenge biological determinism which directed the proper normative roles and behaviour of women and men. On the one hand it was argued that conventional wisdom is wrong about the nature and extent of those roles. In this view, men and women are biologically differentiated, which gives rise to natural differences in ability, interest and capacity. However, the scope and implications of sex differences had been exaggerated.<sup>55</sup> Within this perspective, gender ‘was not seen as a replacement for sex but was viewed, rather, as a means to undermine the encompassing pretensions of sex.’<sup>56</sup>

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<sup>51</sup> Alice Domurat Dreger, *Hermaphrodites and the Medical Invention of Sex* (Harvard University Press, 1<sup>st</sup> ed, 1998) 88.

<sup>52</sup> Elizabeth Reis, *Bodies in Doubt: An American History of Intersex* (The Johns Hopkins University Press, 2009) xii; See also discussion in Katrina Karkazis, *Fixing Sex: Intersex, Medical Authority, and Lived Experience* (Duke University Press, 2008) 40.

<sup>53</sup> Reis (n 52) 65-66; Karkazis (n 52) 40.

<sup>54</sup> Laura Palazzani, 'From "Sex" to "Gender": Origins and Paths of Theorisation' (2013) *Gender in Philosophy and Law* 1.

<sup>55</sup> Cynthia Eagle Russett, *Sexual Science: the Victorian Construction of Womanhood* (Harvard University Press, 1993) 12.

<sup>56</sup> Linda Nicholson, 'Interpreting Gender' (1994) 20(1) *Signs* 79, 80 [emphasis in original].

A more radical challenge was the project to tease out biological traits from other characteristics such as social role, personality, interests, demeanour, ability, and sexual orientation. The initial mid-20<sup>th</sup> century coining of different terminology and taxonomy to describe sex and gender is generally attributed to Robert Stoller and/or John Money. Both Stoller and Money were sexologists working with trans and intersex people. Stoller worked with trans people at the UCLA Gender Identity Clinic in the 1960s and 70s.

... in order to explain why some people felt that they were 'trapped in the wrong bodies', the psychologist Robert Stoller (1968) began using the terms 'sex' to pick out biological traits and 'gender' to pick out the amount of femininity and masculinity a person exhibited. Although (by and large) a person's sex and gender complemented each other, separating out these terms seemed to make theoretical sense allowing Stoller to explain the phenomenon of transsexuality: transsexuals' sex and gender simply don't match.<sup>57</sup>

Taking the word 'gender' from linguistic into sexology domains, Stoller opened up a new language to differentiate between the biological and the psychological domains of sex. Stoller is widely credited with introducing the concept and phrase 'core gender identity.'<sup>58</sup>

Money was a sexologist at Johns Hopkins Hospital whose research focussed on gender in the context of both trans and intersex issues. Money provided clinical treatment of both trans and intersex people. Money credits himself with the first use of the term 'gender' in the context of sex and sexuality.<sup>59</sup> The term had previously been confined to a linguistic context.<sup>60</sup> Money used the term in both a descriptive and normative sense. For Money, the word played a useful role in separating the biological from the social and psychological and helped to ease the

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<sup>57</sup> Mari Mikkola, (n 45) [38 1.2].

<sup>58</sup> Palazzani, (n 54).

<sup>59</sup> John Money, 'Gender Role, Gender Identity, Core Gender Identity: Usage and Definition of Terms' (1973) 1(4) *Journal of the American Academy of Psychoanalysis* 397, 397.

<sup>60</sup> Nicholson, (n 56); Anne Edwards, 'The sex/gender distinction: Has it outlived its usefulness?' (1989) 4(10) *Australian Feminist Studies* 1.

'terrible strain' put on the word 'sex.'<sup>61</sup> Money himself provided the following definition of gender in 1955:

All those things that a person says or does to disclose himself or herself as having the status of boy or man, girl or woman, respectively. It includes, but is not restricted to sexuality in the sense of eroticism. Gender role is appraised in relation to the following: general mannerisms, deportment and demeanor; spontaneous topics of talk in unprompted conversation and casual comment; content of dreams, daydreams and fantasies; replies to oblique inquiries and projective tests; evidence of erotic practices and, finally, the person's own replies to direct inquiry.<sup>62</sup>

The use of a new word to designate psycho-social sex allowed sexologists to introduce a more granular understanding of different aspects of sex. Feminists found this distinction between sex and gender useful in the struggle to counter biological determinism. This enabled them to argue that many differences between women and men were socially produced and, therefore, changeable.<sup>63</sup> Gayle Rubin is credited with reframing gender politics by articulating aspects of sex as socially and politically produced.<sup>64</sup> Fausto-Sterling claims that 'feminists assigned biological (especially reproductive) differences to the word sex and gave to gender all other differences.'<sup>65</sup> Initially gender identity was seen as an aspect or product of gender role and performance. Increasingly gender identity has been conceptualised as entirely distinct from gender performance or gender roles. The impact of this reconfiguration of gender roles and identity as separate from biological sex has been profound.

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<sup>61</sup> Money, (n 59) 398.

<sup>62</sup> John Money, J G Hampson and J L Hampson, 'An Examination of Some Basic Sexual Concepts' (1955) 97 *Bulletin of the Johns Hopkins Hospital* 284.

<sup>63</sup> Mikkola, 'Feminist Perspectives on Sex and Gender', (n 45) [1.2].

<sup>64</sup> Gayle Rubin, 'The Traffic in Women' in Rayna R Reiter (ed), *Toward an Anthropology of Women* (Monthly Review Press, 1975).

<sup>65</sup> Anne Fausto-Sterling, 'The Bare Bones of Sex: Part 1--Sex and Gender' (2005) 30(2) *Signs: Journal of Women in Culture & Society* 1491, 1493.

While some feminist thinkers theorise sex and gender in different ways, most post-structural feminists reject the conceptualisation of gender as patriarchal interference distorting an ultimate truth about male and female subjectivity that could be revealed if we could peel back the layers of ideology. As Gatens argues,

the sexed body can no longer be conceived as the unproblematic biological and factual base upon which gender is inscribed, but must itself be recognised as constructed by discourses and practices that take the body as their target and as their vehicle of expression.<sup>66</sup>

Shildrick and Price argue that 'the body has become the site of intense inquiry, not in the hope of recovering an authentic female body unburdened of patriarchal assumptions, but in the full acknowledgement of the multiple and fluid possibilities of differential embodiment.'<sup>67</sup>

A number of inferences about sex and gender have gone unchallenged, or even been reinforced, by the widespread adoption of this framework of understanding which distinguishes gender from sex. First, the sex-gender distinction does not challenge the prevailing understanding of biological sex as universal and unchanging. Nicholson argues this is because even those who endorse sex identity as socially constructed 'think of it as the cross-culturally similar social response to some 'deeper' level of biological commonality, represented in the material givens of the body...'<sup>68</sup> Implicitly, political action to change gender oppression is futile, since sex and gender are generated out of an inert biological reality. Gender is merely a manifestation of culture's influence on a universal and static nature. According to Oyama, 'saying that of course nature combines with, or interacts with, nurture suggests a continued reliance on a biological nature defined before development begins and merely modulated or

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<sup>66</sup> M Gatens, 'Power, bodies and difference' in M Barrett and A Phillips (eds), *Destabilizing Theory* (Polity Press, 1992), 132.

<sup>67</sup> Janet Price and Margrit Shildrick, 'Openings on the Body: A Critical Introduction' in Janet Price and Margrit Shildrick (eds), *Feminist Theory and the Body* (Routledge, 1999) 1, 12.

<sup>68</sup> Nicholson, (n 56), 82.

deflected by environmental nurture.<sup>69</sup> In other words, static nature (sex) pre-exists mediation or interpretation by or through culture to produce gender. This preserves binary biological sex as a pre-cultural reality. As Nicholson describes it, '...the biological is being assumed as the basis upon which cultural meanings are constructed. Thus, at the very moment the influence of the biological is being undermined, it is also being invoked.'<sup>70</sup> Nicholson describes this as the 'coat-rack' view of self-identity, where the body is a rack on which cultural artefacts like personality and behaviour are superimposed.<sup>71</sup> Furthermore, the Cartesian mind/body dualism is reinforced by the configuration of sex as bodily and gender as related to the psyche and the social.<sup>72</sup>

A second unchallenged implication is that sex is a binary around which the specific manifestations of gender are organised. The sex binary is not immune from challenge within the sex/gender duality, but tends to be reinforced by the perception that biology is fixed and immutable. Related to this is the perception of women and men as monolithic categories. This perspective understands 'women' as a category of persons who can be grouped together because all share a common feature, experience or other characteristic.<sup>73</sup> As Schmitz and Hopper comment, the idea that men and women have different brains only makes sense if we assume that each group is internally homogenous.<sup>74</sup> This essentialist view ignores intersectionality of race, class, disability and other vectors of experience and oppression.<sup>75</sup> It emphasizes differences between the sexes, but papers over differences within the sexes.<sup>76</sup>

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<sup>69</sup> Susan Oyama, *Evolution's Eye: A Systems View of the Biology-Culture Divide* (Duke University Press, 2000), 136.

<sup>70</sup> Nicholson, (n 56) 81.

<sup>71</sup> Ibid.

<sup>72</sup> Jennifer Germon, *Gender: a Genealogy of an Idea* (Palgrave MacMillan US, 2009). See especially chapter 5 'Dangerous Desires: Intersex as Subjectivity'.

<sup>73</sup> Catherine MacKinnon, 'Difference and Dominance' in E Hackett and Sally Haslanger (eds), *Theorizing Feminisms* (Oxford University Press, 2006).

<sup>74</sup> Sigrid Schmitz and Grit Höppner, 'Neurofeminism and feminist neurosciences: A critical review of contemporary brain research' (2014) 8 *Frontiers in Human Neuroscience* 1.

<sup>75</sup> Elizabeth Spelman, *Inessential Woman: Problems of Exclusion in Feminist Thought* (Beacon Press, 1988); Mary Hawkesworth, 'Confounding Gender' (1997) 22(3) *Signs* 649.

<sup>76</sup> Janet Shibley Hyde, 'Gender Similarities and Differences' (2014) 65(1) *Annual Review of Psychology* 373.



A further implication of the sex/gender framework is that it has coupled itself with a nature/culture binary. Teasing out gender and sex has reinforced a further dualism which aligns to the nature/nurture dualism. This is echoed in other dualisms which assume that biology is inert, inexorable, innate and unassailable. By contrast, culture is configured as variable, unstable, fluid, subject to choice and individual decision-making. Culture is within our conscious control and destiny. Nature is not.

Finally, the sex-gender distinction is consistent with the belief or assumption that sex and gender are normatively coextensive. Although developed to facilitate a better language to discuss situations where gender and sex are at variance, the feminist uptake of the sex-gender distinction doesn't necessarily explore variability between the two oppositional concepts. 'To be gendered in opposition to one's sex is therefore a problem, despite the fact that sex and gender are, in the context of this theory, analytically distinct.'<sup>77</sup> If gender is a cultural mediation of binary sex, then variance between sex and gender implies a misstep or pathology in that translation or mediation. It imposes a normative expectation that women should behave like females, and men like males.

As Fausto-Sterling writes:

If "facts" about biology and "facts" about culture are all in a muddle, perhaps the nature/nurture dualism, a mainstay of feminist theory, is not working as it should. Perhaps, too, parsing medical problems into biological (or genetic or hormonal) components in opposition to cultural or lifestyle factors has outlived its usefulness for biomedical theory.<sup>78</sup>

## 2.4 Embodiment and Feminism

Not only is the dualism of sex and gender associated with various problematic assumptions, but the validity and meaning of the distinction itself is interrogated by feminists. Some strands of feminist thought have relegated biology to nature and understood it as unclaimable. The surrender of sex to the domain of science and medicine has proven to be problematic and has

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<sup>77</sup> Hausman, Bernice *Changing Sex: Transsexualism, Technology, and the Idea of Gender* (Duke University Press, ) 8.

<sup>78</sup> Fausto-Sterling, 'The Bare Bones of Sex: Part 1--Sex and Gender' (n 65) 1492-3.

impacted on feminism's engagement with the body. Many feminists have worked to revisit biology and to retrieve 'the body from its conventional status as inert and passive matter, refiguring it as the source of subjectivity, knowledge and ethics ... This requires contesting not only the domination of the body by biology, but also contesting the terms of biology itself.'<sup>79</sup>

Grosz identifies a problematic direction of deconstructionist feminist theory:

Gender de/constructionism has, indeed, radically challenged the binary construction of femininity/masculinity but it has at the same time failed to critically analyze and deconstruct the two related binary oppositions [mind/body and culture/nature] and has instead become caught up in them.<sup>80</sup>

But many feminist writers have questioned the assumption that reality consists of material bodies with inherent attributes that exist prior to and separate from their representation. Barad, for example, argues that matter 'is always already an ongoing historicity.'<sup>81</sup> The project of retrieving the body from its status as inert passive material involves contesting the terms of biology and challenging the natural sciences as exclusively producing authoritative knowledge of the body.<sup>82</sup> As Keane and Rosengarten argue, 'the body itself is a process of translation and transcription which is continually producing its sexual and gender identity.'<sup>83</sup> This dynamic process should scupper the conception of biology as passive and inert, but that conception is resilient and powerful.

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<sup>79</sup> Helen Keane and Marsha Rosengarten, 'On the Biology of Sexed Subjects' (2002) 17(39) *Australian Feminist Studies* 261, 261.

<sup>80</sup> Nasrullah Mambrol, 'Corporeal Feminism' on Nasrullah Mambrol, *Literary Theory and Criticism* (January 11, 2018) <<https://literariness.org/2018/01/11/corporeal-feminism/>>. See also Elizabeth Grosz, 'Notes towards a corporeal feminism' (1987) 2(5) *Australian Feminist Studies* 1.

<sup>81</sup> Karen Barad, 'Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter' (2003) 28(3) *Signs* 801, 821.

<sup>82</sup> Keane and Rosengarten, (n 79).

<sup>83</sup> *Ibid*, 267.

Keane and Rosegarten illustrate the complexity of grappling with the corporeal in their article 'On the Biology of Sexed Subjects.'<sup>84</sup> Their analysis of drug use as a subject for corporeal analysis, for example, raises parallels with the subject of hormones in writing about sex differences. 'In the terms of the linked dichotomies of natural/artificial and nature/culture, drugs are an unstable category.'<sup>85</sup> Drugs partake of both the natural and the artificial while still classified in some contexts as biological and non-cultural elements. The status of hormones is similarly unstable and contingent, as so-called 'sex hormones' disrupt the seemingly natural categories of male and female, and simultaneously reinforce those categories. Yet much of the discourse on sex/gender does not erode the distinctions between physical and social bodies in respect of hormones.

The engagement of feminism with the sexed body is further complicated by the fact that our shared understanding of gender is becoming increasingly alienated from the material body, as acceptance of trans identity becomes more widespread and radical. This is occurring in legal domains too. For example, recent legislation in Victoria is designed to allow gender markers on birth certificates to be amended without evidence of medical intervention, whereas such evidence has been a cornerstone requirement of changing sex identification in all jurisdictions up until now.<sup>86</sup> These developments are important in de-medicalising trans identities and lives and in loosening the grip of a rigid sex binary. However, they mark a move towards an even greater abstraction in our understanding of gender as a social category which is designated on non-corporeal grounds. In other words, our understanding of sex as a fixed and unchangeable biological description and gender as an abstract cultural designation is becoming more dichotomous. That level of abstraction relies, however, on an assumption that gender identity is not conceived as a biological phenomenon. It is my thesis that gender identity is increasingly

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<sup>84</sup> Keane and Rosengarten, (n 79).

<sup>85</sup> Ibid, 264.

<sup>86</sup> *Births, Deaths and Marriages Registration Amendment Bill 2019* (Vic).

understood as a biological feature, which has become a key to progressive conceptualisation of trans identity. Thus gender expression is abstract, but gender identity is hard-wired at birth.

Keller argues, from the perspective of genomics and epigenetics, that the question of whether a particular trait or phenomena is attributable to nature or nurture is meaningless.<sup>87</sup> The tendency to position them in opposition is problematic and creates an illusion that they are separable in a meaningful way. The disjuncture of causal effects of nature and nurture is an idea that has been introduced into our thinking. They are seen as not only separated by time (pre- and post-birth) but also as influences that are different in kind.<sup>88</sup> In other words, they have morphed into separable causal domains.

Wilson refers critically to 'our shared conviction that it remains axiomatic for feminism that informed accounts of culture, history or language cannot be grounded in the nature of human biology.'<sup>89</sup> Richardson<sup>90</sup> refers to the predominant 20th century model of sex determination, which adopted a linear model whereby the Y chromosome triggers a departure from the default female plan. Sex hormones within this model act as regulators to control and maintain sexual differentiation. However, there are competing models which conceptualise hormones as 'avatars of sexual plasticity.' Richardson explains that, for example, Arthur Arnold has coined the neologism 'sexome' to describe an 'interactive, dynamic network composed of many sex-biased factors, including epigenetic ones, involved in all life processes.'<sup>91</sup> These are examples of

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<sup>87</sup> Evelyn Fox Keller, *The Mirage of a Space Between Nature and Nurture* (Duke University Press, 2010).

<sup>88</sup> Ibid.

<sup>89</sup> Elizabeth A Wilson, 'Introduction: Somatic Compliance-Feminism, Biology and Science' (1999) 14(29) *Australian Feminist Studies* 7, 7.

<sup>90</sup> Sarah S Richardson, 'Plasticity and Programming: Feminism and the Epigenetic Imaginary' (2017) 53(1) *Signs* 29. 34. ('Plasticity and Programming')

<sup>91</sup> Ibid.

a significant literature challenging the conception of sexed biology as static, unchangeable and discrete from non-biological influences.

In moving away from an understanding of gender differences as determined by biology, mainstream feminism used gender as an analytical concept by which to challenge sexism and patriarchy, citing social origins of gender inequality and thereby disclosing the possibility of social change. However, by investing in gender and ignoring the 'discursive aspects of science's construction of its objects of knowledge (the body, for example)'<sup>92</sup> there is a risk of preoccupation with social and cultural effects at the expense of the biological. This is accompanied by a conception of a static biology in opposition to an active and dynamic culture.

## 2.5 Static Biology and Dynamic Culture

There was a shift in the late seventeenth century whereby the biological sexed body came to be understood as primary compared to its social or cultural meanings: '[under] the epistemological lens of the Enlightenment ... the physical world – the body – appears as “real,” while its cultural meanings are epiphenomenal.'<sup>93</sup> If we endorse and adopt this duality, then biology will be seen not only as inexorable, but also as more authentic. Biology is universal and constant. Culture is changeable, frivolous, and undependable. It is fluid and malleable, subject to individual will, which is both its strength and limitation. On the one hand, it is open to exercises of autonomy by which individuals can shape their destiny and world. On the other hand, how can this unstable category scratch a mark on the edifice of biology, which is inherently resilient to change? While the reconstruction of sex and gender as separable was liberating, in that it gave purchase against biological determinism, its investment in other dualisms has distorted our

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<sup>92</sup> Donna Haraway quoted in Bernice L Hausman, *Changing Sex: Transsexualism, Technology and the Idea of Gender* (Duke University Press, 1995) 9; See also Suzanne J Kessler and Wendy McKenna, 'Gender Construction in Everyday Life: Transsexualism (Abridged)' (2000-02) 10(1) *Feminism & Psychology* 11.

<sup>93</sup> Laqueur, (n 48) 7.

understanding of nature and nurture. As Lock argues '[u]ntil recently the individual body usually has been conceptualized as a universal biological base upon which culture plays its infinite variety.'<sup>94</sup>

Biology is constructed as a 'state of being', whereas culture is constructed as enactment or performance – a layer of meaning that is pasted over the constancy of being. Biological kinship, for example, is innate, inexorable and fixed - unlike social ties, which are contingent and conditional, subject to individual choice and requiring continued performance and enactment.<sup>95</sup> The invocation of choice and autonomy in the context of social gender roles has led to an explicit devaluing of cultural meanings in the context of progressive attitudes to diverse sexuality and gender. An example is contestation between the claims that homosexuals 'choose' to be gay versus claims that gay people are just 'born that way.' The former equates to a claim that being gay is a cultural characteristic which is subject to individual choice, because while culture is unstable and unfixed it is also within the realm of individualised agency. Some gay rights advocates and allies argue that being gay is not a choice because it is a fixed and stable biological trait which is resistant to change.<sup>96</sup> If biological nature is fixed, that puts it beyond individual or social control, which implies that behaviour is compelled and therefore

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<sup>94</sup> Lock, (n 47) 134.

<sup>95</sup> Aileen Kennedy, 'Accounting for the Vagaries of Nature – the Importance of Biology in Identifying Parents' in Heather Keating and Craig Lind (eds), *Taking Responsibility: Law and the Changing Family* (Ashgate Publishing, 2010) 177-200.

<sup>96</sup> For example, Bill Sullivan, 'Stop Calling it a Choice: Biological factors drive homosexuality' *The Conversation* 3 September 2019 < <https://theconversation.com/stop-calling-it-a-choice-biological-factors-drive-homosexuality-122764>>; Sheldon, J P, Pfeffer, C A, Jayaratne, T E, Feldbaum, M, & Petty, E M 'Beliefs about the etiology of homosexuality and about the ramifications of discovering its possible genetic origin' (2007) 52(3-4) *Journal of homosexuality*, 111; Qazi Rahman "'Gay Genes": Science is on the Right Track, We're Born This Way. Let's Deal With it.' *The Guardian* (online, 24 July 2015) < <https://www.theguardian.com/science/blog/2015/jul/24/gay-genes-science-is-on-the-right-track-were-born-this-way-lets-deal-with-it>>.

cannot be subject to moral or legal consequences or accountability. However, a danger with this conception is that 'biological explanations seem to compromise autonomy.'<sup>97</sup>

When we conceptualise culture and social relations as flexible, porous and within the realm of agency, we are buying into other post-enlightenment political ideologies which conceptualise the public realm as the realm of the market, where equal, agentic, atomistic, and autonomous actors negotiate, perform and re-form relationships to advance their own best interests. Liberal valorisation of individualism and autonomy permeates our foundation thinking about the nature of society and culture.<sup>98</sup> It is in this context that conservative trans- and homo-phobic attacks have constructed these identities and sexualities as matters of choice and responsibility. If social relationships within the public realm permeate the private sphere, then all sexual and social relationships become the subject of choice and negotiation between equal autonomous agents. Same sex relationships are 'chosen' and gay and lesbian people are 'responsible' for those choices. Biologically determined relationships, by contrast, are 'hierarchically fixed by status.'<sup>99</sup>

While conservative commentators argue that homosexuality is a choice,<sup>100</sup> research in the biosciences has persistently and intrepidly searched for biological correlates of homosexuality in order to challenge the conservative perspective.<sup>101</sup> For many gay rights advocates and supporters, the position that sexual orientation is fixed and determined biologically has become a cornerstone of progressive thinking. A similar trajectory has occurred in the social and

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<sup>97</sup> Susan Oyama, *Evolution's Eye A Systems View Of The Biology-Culture Divide* (Duke University Press, 2000), 169.

<sup>98</sup> Kennedy, (n 95).

<sup>99</sup> *Ibid*, 181.

<sup>100</sup> For example see Rod Dreher, 'Not Born This Way After All?' on *The American Conservative* (August 29, 2019) <<https://www.theamericanconservative.com/dreher/not-born-this-way-no-gay-gene/>>.

<sup>101</sup> For example, Ai-Min Bao and Dick F Swaab, 'Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders' (2011) 32(2) *Frontiers in Neuroendocrinology* 214. See also A Moutinho, A V Pereira and G Jorge, 'Biology of homosexuality' (2011) 26(S2) *European Psychiatry* 1741.

political debates over trans rights. A significant strand of progressive support for trans rights is tied to assumptions that being trans is inexorable, and that this fixity and stability is attributable to its origins in biology.<sup>102</sup> This concept is supported by bioscientific research into and literature claiming to identify the neurological correlates of gender.

As Oyama comments

Insofar as the nature-nurture dichotomy maps, albeit imperfectly, onto the ones between causes and reasons, determinism and free will, involuntary and voluntary behavior, people are believed to be helpless to affect, and thus not accountable for, the 'biological' phenomenon.<sup>103</sup>

Oyama describes this as a reversal of previous strategies for defending denigrated groups, which was to invoke nurture, not nature, as behaviour grounded in nurture raises the possibility of redemption,<sup>104</sup> which is precisely why progressive activists have rejected non-biological explanations. Redemption, in this context, could mean invoking therapies to 'cure' homosexuality – including conversion therapies which range from ice-pick lobotomies and chemical castration to hetero 'prayer and care' boot camps for juveniles. However, the strategy of invoking biology does not remove the risk of 'therapeutic' intervention. Oyama argues that the biological label renders that trait vulnerable to pathologisation. Rather than confer legitimacy, 'biology easily sanctions therapeutic intervention, even against a person's will.'<sup>105</sup>

The perception that biology is more authentic and morally neutral than non-biological phenomena is also a motivation for those who seek to define trans as an intersex phenomena:

I constantly get emails and letters from transgendered people asking "Can you help me find out if I'm intersexed?" What most of them really mean, of course, is "I hope I'm intersexed in some way, because then I'll have a

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<sup>102</sup> Josh Jackman, 'Transgender people are born that way, a new study has found', *Pink News* <<https://www.pinknews.co.uk/2018/03/15/transgender-people-are-born-that-way-a-new-study-has-found/>>.

<sup>103</sup> Oyama, *Evolution's Eye A Systems View of the Biology-Culture Divide*, (n 69) 175.

<sup>104</sup> *Ibid* 178.

<sup>105</sup> Oyama, *Evolution's Eye A Systems View of the Biology-Culture Divide*, (n 69).



legitimate biological reason for being transgendered that I can throw in the faces of my parents/relatives/boss/friends/spouse/kids/the mullahs/etc.” It’s as if, in some peoples’ minds, being [intersexed] is more ‘real,’ and thus more legitimate, than being transsexual or transgendered.<sup>106</sup>

Hausman comments that two of the earliest people to be given medical legitimacy as trans – Agnes and Lili – initially presented as intersex, and this theme of intersexuality permeates the narrative and clinical descriptions of their negotiations through the medical technologies of body transformation.<sup>107</sup> This presentation was necessary ‘so that their bodies would be understood as the contested sites of physiological sex badly in need of unifying transformations.’<sup>108</sup>

These dichotomies structure and distort our thinking about sex, gender, biology and autonomy. Many feminists work to collapse these dualities:

The body is no longer portrayed simply as a template for social organization, nor as a biological black box cut off from "mind," and nature/culture and mind/body dualities are self-consciously interrogated.<sup>109</sup>

Lock urges this and notes that such interrogations are vital because without them, ‘conceptual dichotomies inevitably metastasize into one another.’<sup>110</sup>

Hird claims that a paradigm shift is occurring in the physical sciences whereby nature is conceptualised less as stable, monolithic and inert, ‘towards a conception of nature as a complex open system subject to emergent properties.’<sup>111</sup> This shift is taken up in chapter 3 section 3.3.2 in relation to brain plasticity.

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<sup>106</sup> Raven Kaldera, quoted in admin Intersex Human Rights Australia, *'ISGD' and the appropriation of intersex* <<https://ihra.org.au/13651/isgd-and-the-appropriation-of-intersex/>>.

<sup>107</sup> Hausman, (n 77) 17.

<sup>108</sup> Ibid, 17.

<sup>109</sup> Lock, (n 47) 136.

<sup>110</sup> Ibid, 137.

<sup>111</sup> Myra Hird, 'From the Culture of Matter to the Matter of Culture: Feminist Explorations of Nature and Science' (2003) 8(1) *Sociological Research Online* 1. [3.2].

## 2.6 The Search for 'True Sex' in the Body

In this section of the chapter, I will provide an overview of different moments in the evolving and fluctuating biomedical perspective on the biological origins of sex differentiation. Various elements, organs and processes of the body have been posed as candidates for the key role of determining and signifying true sex. I am aware that this discussion is brief, incomplete and does not do justice to the complexity, diversity and nuance of bioscientific research or feminist explication of these issues. However, I hope to demonstrate a problematic cultural tendency to suppress complexity and intricacy by identifying straightforward biological factors that can explain binary sex as an uncomplicated biological reality.

In relation to some of these moments, the analysis focusses on the biomedical search for a scientific answer to the 'problem' of hermaphrodites.

### 2.6.1 The move from a one-sex to a two-sex body

Laqueur argues that prior to the 18<sup>th</sup> century women and men were considered to share one morphological body.<sup>112</sup> The boundaries between the male and female were of degree and not of kind. Galen, one of the most influential anatomists within the Western tradition, declared that women are but inverted and less perfect men. Women's bodies are simply inferior, less developed versions of men's bodies.

Now just as mankind is the most perfect of all animals, so within mankind the man is more perfect than the woman, and the reason for his perfection is his excess of heat, for heat is Nature's primary instrument.<sup>113</sup>

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<sup>112</sup> Laqueur, (n 48); See also Ibid; Lorraine Daston and Katharine Park, 'The Hermaphrodite and the Orders of Nature: Sexual Ambiguity in Early Modern France' (1995) 1(4) *GLQ: A Journal of Lesbian and Gay Studies* 419; Nelly Oudshoorn, 'Endocrinologists and the conceptualization of sex, 1920–1940' (1990) 23(2) *Journal of the History of Biology* 163.

<sup>113</sup> Aelius Galen quoted in Laqueur (n 48) 28.

Daston and Park seek to 'complicate' this characterisation by arguing that 'post-classical European accounts of generation were dominated by two distinct and in many ways contradictory theoretical traditions, the Hippocratic and the Aristotelian.'<sup>114</sup> Daston and Park contend that perceptions of hermaphroditism have never been uniformly schematised: '[t]he early modern literature on hermaphrodites is veined with fault lines that run along many different axes'.<sup>115</sup> Two primary conceptions of the nature of hermaphroditism were available from antiquity. One concept, associated with Hippocrates and Galen, viewed sex as a continuum or spectrum, with male and female at opposite poles and hermaphrodites falling in the middle, beings of intermediate sex. This Hippocratic/Galenic conception assumes that bodies have one basic structure that differs between men and women in their reproductive anatomy, particularly the genitals.<sup>116</sup> The other model of sex, associated with Aristotle, was dichotomous. Hermaphroditism was a condition localised in the genitals and was superficial and apparent rather than representing somatic ambiguity in the organism as a whole.' Daston and Park write that: 'Hippocratic and Aristotelian interpretations wove their way through medieval and early modern medicine and natural philosophy, sometimes in counterpoint, more often in uneasy synthesis'<sup>117</sup> According to Laqueur, during the course of the eighteenth century, the dominant paradigm of sex difference began to radically shift from a one-sex to a two-sex body. This included a quest to find sex differences in every part of the human body.<sup>118</sup>

Laqueur describes the search for difference between men's and women's bodies at every level and in every particular:

Women's bodies in their corporeal, scientifically accessible concreteness, in the very nature of their bones, nerves, and, most important, reproductive

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<sup>114</sup> Daston and Park, (n 112) 420.

<sup>115</sup> Ibid.

<sup>116</sup> Oudshoorn (n 112) 163.

<sup>117</sup> Daston and Park (n 112), 422.

<sup>118</sup> Laqueur (n 48).

organs, came to bear an enormous new weight of meaning. Two sexes, in other words, were invented as a new foundation for gender.<sup>119</sup>

The project extended to changing the labels and language: ‘male and female sex organs, which had previously shared the same names, were now distinguished by separate terms.’<sup>120</sup>

Schiebinger explores how ‘discovering, describing, and defining sex differences in every bone, muscle, nerve, and vein of the human body became a research priority in anatomical science.’<sup>121</sup> Schiebinger attributes this new configuration to a need to deny civil rights to women within the paradigm of emerging liberal political philosophy.<sup>122</sup> In the push to create a comprehensive and detailed catalogue of the biological differences between categories of human,<sup>123</sup> bioscientists and others who were engaged in knowledge production were also providing material which could be deployed in the new undertaking to assign hermaphrodites to their true sex.

### 2.6.2 Finding sex in the hermaphroditic body

Following the post enlightenment shift from a one-body to a two-body conception of sex differences there was a shift in the understanding of hermaphroditic bodies. It became important to resolve the problem presented by hermaphrodites. The new schema urgently required a clear categorisation of ambiguously sexed people – from hermaphrodites to homosexuals to feminists. As Dreger writes:

Given what Cynthia Eagle Russett has termed “an intense somatic bias” among nineteenth-century scientists – that is, given scientists’ deep faith in materialism as the key to truth – the unusual bodies of hermaphrodites

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<sup>119</sup> Ibid 150.

<sup>120</sup> Karkazis, (n 52) 34.

<sup>121</sup> Londa Schiebinger, ‘Skeletons in the Closet: The First Illustrations of the Female Skeleton in Eighteenth-Century Anatomy’ (1986)(14) *Representations* 42, 42

<sup>122</sup> Ibid 43

<sup>123</sup> Russett, (n 55) 4. Note that Russett is considering a slightly later period of scientific research.

presented extremely powerful challenges to biomedical claims about the natural, inviolable distinctions between men and women.<sup>124</sup>

This in turn required resolution of ambiguity about sex, and how to determine to which of the two incommensurate categories – men and women – an hermaphrodite really belonged. But bioscience did not offer a clear agreed test for determining true sex. As the newly institutionalised medical establishment consolidated its professional remit and jurisdiction,<sup>125</sup> it sought to encompass decisions about the proper sexed body within the purview of doctors. Only medical professionals were qualified to determine whether a person whose body was not unambiguously male or female was truly a man or a woman. Such decisions were urgently required for various reasons, particularly the need to prevent homosexual behaviour.<sup>126</sup> Law demanded clear boundaries and categories by which humans and their legal status and rights could be defined and regulated.<sup>127</sup>

Although researchers were busily intent on identifying sex differentiation in all aspects of the body – from the skeleton to the nerves to the blood to the reproductive organs<sup>128</sup> – there was initially no agreement about which trait or quality was a reliable indicator of true sex. Dreger recounts a meeting of the British Gynaecological Society in 1888 where eminent gynaecologist Dr Fancourt Barnes presented to the meeting an hermaphrodite raised as a woman who Dr Barnes identified as obviously male. While Barnes's diagnosis enjoyed support from some of his fellow members, the meeting erupted in controversy and disagreement, largely over the issue

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<sup>124</sup> Dreger, (n 51) 28; See also *ibid.*

<sup>125</sup> M J D Roberts, 'The politics of professionalization: MPs, Medical Men, and the 1858 Medical Act' (2009) 53(1) *Medical History* 37.

<sup>126</sup> Reis, (n 52), especially chapter 3.

<sup>127</sup> *Ibid.*, loc 249

<sup>128</sup> See, for example, Schiebinger, (n 122); K Harvey, 'The Century of Sex? Gender, Bodies, And Sexuality in the Long Eighteenth Century.' (2002) T45 (4) *The Historical Journal* 899; Katharine Park and Robert A Nye, 'Destiny Is Anatomy' (1991) 204(7) *New Republic* 53; Joan W Scott, 'Gender: A Useful Category of Historical Analysis' (1986) 91(5) *The American Historical Review* 1053; Joan Wallach Scott, *Gender and the Politics of History* (Columbia University Press, 1999).

of what signs, characteristics and traits were relevant and weighty in determining sex. The meeting ended on a note of indecision and division.<sup>129</sup>

The historical approach to intersex reveals much about how biological sex is understood, classified, naturalised and embodied across time and culture. As Karkazis observes,

To call a body hermaphroditic, one must already have some idea of what normal male and female bodies look like, what traits they possess, and the parameters of acceptable behavior for men and women.<sup>130</sup>

The challenge the intersex body poses to a binary model of sex means that this is one domain where the dominant understanding of binary sex is distilled and sometimes starkly exposed.

Medical professionals in the 18<sup>th</sup> and 19<sup>th</sup> centuries offered no cure for the deformity of hermaphroditism. Their expertise was used to clarify the true sex of hermaphrodites based on scientific knowledge and clinical understanding of the body. Assured of their authoritative expertise, medical men made determinations that were often surprising to their patients, and had serious and profound repercussions. People who had been raised as women, acted as women, married as women, and who believed they were women, were baldly told that they were actually men and advised to rebuild their lives.<sup>131</sup> As Reis explains, "'Undecided" was the one medical conclusion physicians refused to reach.'<sup>132</sup>

### 2.6.2.1 Gonads

During this period 1870-1915, what I call the Age of Gonads, scientific and medical men, faced with and frustrated by case after case of "doubtful sex,"

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<sup>129</sup> Dreger, (n 51) 19-22.

<sup>130</sup> Karkazis, (n 52) 32

<sup>131</sup> Dreger, (n 52); Reis, (n 52); Geertje Mak, *Doubting Sex: Inscriptions, bodies and selves in nineteenth-century hermaphrodite case histories* (Manchester University Press, 2012); Christina Annalena Eckert, 'The Historicisation of the Hermaphroditic/Intersexed Body: From Medicalisation to De-medicalisation' (MA Thesis, University of Essex, 2003); Julie Greenberg, *Intersexuality and the Law: Why Sex Matters* (New York University Press, 2012).

<sup>132</sup> Reis, (n 52) Location 421.

came to an agreement that every body's "true" sex was marked by one thing and one thing only: the anatomical nature of the gonadal tissue as either ovarian or testicular<sup>133</sup>

Alice Dreger refers to the Victorian era as the 'age of the gonads' in reference to the prevailing perception among medical experts that a hermaphrodite's true sex was dependent on whether the gonads were male or female. This position was so entrenched that the taxonomy and clinical descriptions of intersex bodies were based on the sex of the gonadal tissue. The prevalent belief was that most so-called hermaphrodites were not true hermaphrodites at all. Since animal hermaphrodites have the reproductive organs of both male and female, the word is only accurate if both testicular and ovarian tissue are present in the same person. People with other manifestations of variations in sex traits were referred to as 'pseudo-hermaphrodites.' For example, where a person was born with ovaries and developed the secondary sex characteristics of a male (genitals and general anatomic features), the terminology used was 'female pseudohermaphrodite.'

The focus on gonads had a significant advantage: it rendered the troublesome double-sexed body vanishingly rare, since only cases of mosaicism would qualify as true hermaphroditism.<sup>134</sup> The threat of the liminal, ambiguous two-sexed body, which could impregnate itself, which could insinuate itself into both hetero- and homo-sexual couplings, which could present itself as either male or female, and steal across established bodily, behavioural and legal boundaries, was quelled. Human bodies were not hermaphroditic, they were fundamentally male or female.

Dreger identifies around 1915 as the time at which the faith in gonads waned among medical professionals.<sup>135</sup> Developments in medical technologies – the microscope, for example - allowed more sophisticated examination of the gonads. Improved anaesthetic and surgical

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<sup>133</sup> Dreger, (n 51), 29; See also Alice Domurat Dreger, 'Doubtful sex: the fate of the hermaphrodite in Victorian medicine' (1995) 38(3) *Victorian Studies* 335.

<sup>134</sup> Christina Annalena Eckert, *The Historicisation of the Hermaphroditic/Intersexed Body: From Medicalisation to De-Medicalisation* (Master of Gender History Thesis, University of Essex, 2003).

<sup>135</sup> Dreger, *Hermaphrodites and the Medical Invention of Sex*, (n 51).

techniques allowed exploratory surgery. Together, these developments brought Krieb's gonadal system into doubt.

The age of the gonads was not followed by a clear, linear development of a new and improved understanding of sex. As Karkazis describes it,

Although medical evaluation and intervention aimed to simplify the diagnosis and treatment of hermaphroditism, assigning a single true sex... in fact became more complex in the early twentieth century, as the marker of and methods for determining this true sex became multiple, diverse, conflicting, and negotiable.<sup>136</sup>

This picture of the state of scientific research on sex determination is echoed by Richardson:

In sum, in the early 1900s, prevailing theories of sex determination stressed the environment, both external and internal to the egg, in determining the ultimate sexual fate of the organism. They also embraced a view of sexual development that assumed significant plasticity in response to time-sensitive and contingent physiological events and exposures, such as hormones.<sup>137</sup>

Nevertheless, the hope of identifying the source of material sex differentiation did not entirely diminish.

### 2.6.2.2 Hormones

Biomedical research focussed attention instead on hormones, and particularly the 'sex hormones', which were explored in the emerging field of endocrinology. However, the research was hampered by a strong commitment to a central idea:

The early development of sex endocrinology was directed by the underlying assumption of a dualistic concept of sex, according to which female sex

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<sup>136</sup> Karkazis, (n 52) 38.

<sup>137</sup> Sarah S Richardson, *Sex Itself: The Search for Male and Female in the Human Genome* (University of Chicago Press, 2013), 25 ('Sex Itself').



hormones could be found only in the female organism, and male sex hormones were believed to be present only in males.<sup>138</sup>

Oudshoorn provides a compelling account of the impact of the binary model of sex differentiation on the discovery and investigation of sex hormones at the beginning of the 20<sup>th</sup> century.<sup>139</sup> Initial research adopted a dualistic model of sex hormones, which translated the social configuration of the sexes as opposite categories into biological terms. Because scientists began with a conviction that sex hormones, excreted from the gonads, must be confined to the relevant sexed body - only female bodies produced estrogen and only male bodies produced androgens such as testosterone – the complexity of hormones and their impact on the body was poorly understood and misconstrued for several decades from their original discovery in the early 19<sup>th</sup> century.

This perception was challenged from about the 1920s. The issue that drove home the weaknesses of the duality model was the discovery of high levels of female sex hormones in the urine of males. The levels of female hormones in female urine were much lower. As Oudshoorn comments, ‘who would have expected that the testes of a male animal would turn out to be the richest source of female sex hormone ever observed?’<sup>140</sup> Despite surprised assurances from researchers that their research subjects had been ‘normal, healthy men and women,’ other scientists expressed suspicions that the subjects had in fact been undiagnosed hermaphrodites.<sup>141</sup>

The gradual realisation that so-called ‘male hormones’ were present in females, human and non-human, was also met with incredulity and bafflement. It was only with the development by biochemists of the theory of conversion - that testosterone is converted into ‘female hormones’

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<sup>138</sup> Oudshoorn, (n 112) 163.

<sup>139</sup> Oudshoorn, (n 112).

<sup>140</sup> Ibid 171.

<sup>141</sup> Ibid.

and estrogen converted to 'male hormones' for use in the body – that it was widely accepted that both male and female gonads produce both male and female hormones.<sup>142</sup>

Despite this challenge to the duality conception, many scientists continued to cling to that framework in theorising sex hormones.<sup>143</sup> It wasn't until the late 1930s that it was widely accepted that the adrenals and gonads of both sexes produced male and female sex hormones.<sup>144</sup> The abandonment of the concept of exclusive sexual specificity of sex hormones was accompanied by disappointment. Endocrinologists had hoped to find a quantitative test for the diagnosis of sex by the analysis of the sex hormone content of urine.

When the idea of the sex-specific origin of sex hormones was invalidated, scientists had to reconsider their earlier ideas regarding the function of these hormones.<sup>145</sup> They had considered that it was unlikely that female hormones could play any role in the development of male bodies, and this further inhibited research for about ten years. It was even posited that female hormones probably caused disease, such as homosexuality, in male bodies.<sup>146</sup>

As the complexity of the role of hormones in sex determination became clearer, there was a further shift in relation to the initial assumption that sex hormones impacted only on sex characteristics of the body. It became apparent that so-called sex hormones impacted on the function of other organs including the liver, the pituitary and other somatic features. 'After 1935, sex hormones were no longer considered as exclusively sex-specific in function nor as

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<sup>142</sup> Ibid 176.

<sup>143</sup> Such as Robert Frank, who theorised that female hormones were probably ingested into male bodies in the food they ate.

<sup>144</sup> Oudshoorn, (n 112).

<sup>145</sup> Ibid.

<sup>146</sup> Ibid, 177.

merely sex hormones or antagonists; instead, they were seen as substances that could exert manifold synergistic actions in both the male and the female body.<sup>147</sup>

By the 1940s sex was considered to be produced by a balance of endocrinal factors. The promise of hormones as the source of true sex in the material body was declining, though popular perceptions of sex hormones, particularly testosterone, remain confusingly wedded to the ideology of binary sex. This is nowhere more apparent than in sex testing for sport.<sup>148</sup> As Jordan-Young and Karkazis argue, testosterone is widely regarded as embodying masculine characteristics such as aggression, athleticism, risk-taking and libido even though it is also involved in reproductive processes such as ovulation, which are regarded as quintessentially female.<sup>149</sup>

Satzinger provides interesting insights into the political and social constraints on scientific research into sex differentiations and chromosomes and hormones.<sup>150</sup> When the idea of the sex-specific origin of sex hormones was invalidated, scientists had to reconsider their earlier ideas regarding the function of these hormones. The impact of female hormones on the male body and male hormones on the female body opened up a new vista of complexity and diversity. Two categories of male and female, or even a third category of hermaphrodite, could no longer capture the biological nuances of effeminate males or masculine females. From this

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<sup>147</sup> Ibid, 148.

<sup>148</sup> Downing, Morland and Sullivan, (n 41) Karkazis, Katrina, and Morgan Carpenter 'Impossible "Choices": The Inherent Harms of Regulating Women's Testosterone in Sport' (2018) 15 (4) *Journal of Bioethical Inquiry* 579.

<sup>149</sup> Rebecca Jordan-Young and Katrina Karkazis, *Testosterone: An Unauthorized Biography* (Harvard University Press, 2019). Rebecca Jordan-Young and Katrina Karkazis, 'Testosterone's role in ovulation' (2020) 577(7788) *Nature* 29; *ibid*.

<sup>150</sup> Satzinger H The Politics of Gender Concepts in Genetics and Hormone Research in Germany, 1900-1940. *Gender & History*. 2012;24(3):735-754; See also Oudshoorn, (n 112).

time, biologists began to conceptualise masculinity and femininity as sex-determined but not exclusively correlated to male and female.<sup>151</sup>

### 2.6.2.3 Genetics

The focus on sex hormones was gradually displaced by a focus on genes as biomedical science discovered chromosomes and sex chromosomes in particular. '...the X and Y chromosomes, little symbols of unbreachable sex dimorphism, came to anchor a conception of sex as a biologically fixed and unalterable binary...' <sup>152</sup> Richardson refers to the predominant 20th century model of sex determination, which adopted a linear model whereby the Y chromosome triggers a departure from the default female plan.<sup>153</sup> Sex hormones within this model act as regulators to control and maintain sexual differentiation. There are competing models which conceptualise hormones as 'avatars of sexual plasticity.'<sup>154</sup> Nevertheless, genetics have been popularly conceptualised as the exemplar of biological hard wiring. DNA has been popularly understood as a template of heredity, unchanging and unchangeable. This dogma has been discredited in what Kuhn would refer to as a 'paradigm shift'<sup>155</sup> whereby long-standing key assumptions – in this case assumptions about the fixed and unchanging nature of genetics as biological blueprints untempered by environment or social/cultural influences – have yielded to challenges presented by cumulative evidence to the contrary.<sup>156</sup> As Dar-Nimrod describes it, 'The emerging scientific picture provides a more complex, rich, and ultimately probabilistic portrayal of the integration between nature and nurture...' <sup>157</sup>

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<sup>151</sup> Oudshoorn, (n 112), 184-5.

<sup>152</sup> Richardson, *Sex Itself* (n 137) 2.

<sup>153</sup> Richardson, 'Plasticity and Programming' (n 90) 34.

<sup>154</sup> Richardson, 'Plasticity and Programming' (n 90) 33

<sup>155</sup> Bird, Alexander, "Thomas Kuhn", *The Stanford Encyclopedia of Philosophy* (Winter 2018 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/win2018/entries/thomas-kuhn/>>.

<sup>156</sup> Charney, Evan. "Behavior Genetics and Postgenomics" 35(5) (2012) *The Behavioral and Brain Sciences* 331.

<sup>157</sup> Ilian Dar-Nimrod, (2012) 35(5) Postgenomics and genetic essentialism. *Behavioral and Brain Sciences* 362, 362.

Knowledge of biological processes, including knowledge of epigenetics, challenges the nature/culture dualism. Epigenetics takes this challenge to the dogma of the genetic blueprint further, by showing that even genetic inheritance can be influenced by environment. In her study of the history of research into sex chromosomes, Richardson comments that ‘the anatomical markers of sex and the final expression of gender identity are not themselves “sex itself,” but mere signifiers, traces, and elaborations of the genotypic dimorphism that underlies it all.’<sup>158</sup>

As with sex hormones, a tendency to biological essentialism continues to emerge in popular discourses relating to genetics and sex chromosomes, although, according to Richardson, ‘researchers acknowledge that human biological “sex” is not diagnosed by any single factor, but is the result of a choreography of genes, hormones, gonads, genitals, and secondary sex characters.’<sup>159</sup> Nevertheless, the preconceptions regarding the sex binary and biological hardwiring continue to dominate the popular imagination.<sup>160</sup>

#### 2.6.2.4 Hormones, chromosomes and the hermaphrodite

Between the age of the gonads and the 1950s, the search for true sex was dominated by the discovery of sex hormones and sex chromosomes. The complex picture that emerged from these discoveries undermined reliance on a single or straightforward marker of true sex and led to a reluctance to pronounce authoritatively on the true sex of hermaphroditic bodies.<sup>161</sup>

According to Redick, during the first half of the 20th century, intersex was dealt with on a case-by-case basis: during the period from 1916-1955, if a child was born with ‘indeterminate’ genitalia doctors would make an approximate sex assignment and then advise parents to wait and see whether contradictions arose during puberty. If contradictions emerged - for example,

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<sup>158</sup> Richardson, *Sex Itself* (n 137) 8.

<sup>159</sup> Ibid.

<sup>160</sup> Dar-Nimrod, (n 157) 362.

<sup>161</sup> Christina Matta, ‘Ambiguous Bodies and Deviant Sexualities: Hermaphrodites, Homosexuality, and Surgery in the United States, 1850–1904’ (2005) 48 *Perspectives in Biology and Medicine* 74; Alison Redick, ‘What Happened at Hopkins: The Creation of the Intersex Management Protocols’ (2005) 12 *Cardozo Journal of Law & Gender* 289; Karkazis, (n 52).

if at puberty a person raised male grew breasts, or female failed to menstruate - then medical counsel would be sought. From the mid-1930s, psychology became an increasingly important factor in the diagnosis of true sex. Developments in biotechnology such as improved surgical techniques and anaesthesia contributed to a more interventionist approach to intersex variations.

As discussed in section 2.7 below, during this period the law was less concerned with assigning intersex people to their 'true' sex than in determining rights and obligations within assigned sex. For example, several cases concerning nullity of marriage suits focussed on the meaning of consummation in the context of 'artificial' constructed genitals, but accepted that women born without a vagina were women nonetheless. The question was whether women born without a vagina could engage in 'natural' sexual intercourse and consummate their marriage.

#### 2.6.2.5 Genitals

It was in this context that the dominant medical paradigm for the management of intersex in the latter half of the 20<sup>th</sup> century emerged, spearheaded by sexologist John Money at the Johns Hopkins Hospital in the United States, which was the nexus for gender and intersex research. This paradigm sought to bring unity and coherence to the 'anarchy of idiosyncrasy'<sup>162</sup> that had prevailed in preceding decades as the gonadal theory waned in the face of emerging evidence and shifting emphasis. Money developed a complex theory of gender acquisition which incorporated input and feedback loops involving seven variables including not only biological features, but also cultural, social and psychological factors.<sup>163</sup> Money did not maintain that gender was purely non-biological, though his theory gave much emphasis to nurture and

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<sup>162</sup> John William Money, *Hermaphroditism: An Inquiry into the Nature of Human Paradox with a Part Two: Ten Case Reports* (PhD thesis, Harvard University, 1952) quoted in Redick, (n 161) 290.

<sup>163</sup> Redick, (n 161).

culture. According to Money's 'optimal gender theory', gender identity is not inherently fixed in human beings, but develops at around the age of two. Optimal gender theory was so called because it was the task of clinicians to determine a child's optimal gender by juggling a range of factors from genital configuration to surgical capabilities to fertility, and then construct that gender through medical management.<sup>164</sup>

According to optimal gender theory, up to the age of around two years, gender identity in humans is susceptible to the influence of gender socialisation. The development of gender identity depends on the complex interplay of variables, but a central determinate is how children are reared, as long as the rearing does not clash with the visible anatomy. As long as there is no dissonance between those factors, then a child's sex identity will be stable and healthy. For Money, the only significant feature of visible anatomy was an 'adequate' penis. An absence of an 'adequate' penis made the development of male gender identity problematic.<sup>165</sup> Unsurprisingly, this aspect of his theory is based on Freudian theory. If a child has an adequate penis and is raised as a boy for the first 18-24 months of life, that child will be a boy, identify as a boy, act like a boy and be secure in that identity. If there is no visible adequate penis, then a child raised as a boy will suffer trauma and pathology as a result of that dissonance between visible anatomy and social enactment. As Morland comments, 'unlike being a girl without a vagina, being a boy with a less-than-typically masculine anatomy was considered by Money to be psychologically damaging.'<sup>166</sup> Accordingly, if there is no adequate penis, that child should be raised as a girl. If a child has no penis and is raised and treated as a girl for the first 18-24 months of life, that child will be a girl, act like a girl, identify as a girl and be secure in that identity. If the Victorian era was the 'age of the gonads', then the second half of the 20th century could be called the 'age of the penis'.

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<sup>164</sup> Senate Committee Report (n 2) 37.

<sup>165</sup> John M Hutson, Garry Warne and Sonia Grover, *Disorders of Sex Development: An Integrated Approach to Management* (Springer, 2012) 283.

<sup>166</sup> Downing, Morland and Sullivan, (n 41) location 1432; Wylie C Hembree et al, 'Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline' (2017) 102(11) *The Journal of Clinical Endocrinology & Metabolism* 3869.

Money did not eschew gender roles. His treatment protocol promised to cure intersex so that individuals could be comfortably and happily assigned to a sex and a gender. The combination of relative gender fluidity and surgical innovation meant that intersex children could be literally reshaped and remade into males and females. 'Money cast the role of a consulting psychologist in intersex cases as not to defend genital diversity, but to oversee its prompt surgical elimination.'<sup>167</sup> Based on his theory, Money and his team constructed comprehensive treatment and management protocols that were not only swiftly implemented into the medical literature, but governed medicalisation of intersex variations for decades and continue to linger in current practices. Although Money's early research into the psycho-social impact of intersex biology led him to conclude that non-surgical intersex people coped well,<sup>168</sup> the management protocol promised to alleviate the suffering caused by living with the defect of intersex variations. Although Money's theories on gender identity development were complex and nuanced, the treatment protocols were less so and emphasised the susceptibility of gender development to social and medical manipulation.

Surgical innovations and technical developments became important, as surgeons could cosmetically fashion a convincing-looking vagina and cut down the phallus to a 'correct' size for a clitoris. On the other hand, surgeons could not construct a penis that was either convincing-looking or functional (based on whatever criteria was considered meaningful). Limits to surgical techniques often dictated the decision on whether to assign a child male or female. For this and a variety of other reasons, the majority of children born with ambiguous genitals - whether as a result of an intersex condition or otherwise<sup>169</sup> - were assigned and raised as female under Money's treatment protocol. For most of those children, the assignment included surgical 'normalisation' of the genitals involving clitoral recission/reduction and/or vaginoplasty.

From around the mid-1990s cracks began to appear in the facade of successful treatment and management of intersex. People with variations of sex development began to challenge the

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<sup>167</sup> Downing, Morland and Sullivan, (n 41) location 1521

<sup>168</sup> Money, 'Hermaphroditism' (n 162).

<sup>169</sup> Alice Domurat Dreger, "'Ambiguous sex'--or ambivalent medicine?' (1998) 28(3) *The Hastings Center Report* 24, 28.



legitimacy, efficacy and ethics of the treatment protocol. Activists who had been treated under Money's protocol protested the damage and mutilation they felt had been inflicted on them in the name of medical therapy. A number of support groups for people with intersex variations were established, some adopting a more political agenda, some focusing on individualised support. These support and advocacy groups forced the medical and scientific establishment to reconsider the hegemony of the treatment protocol. Critical voices also emerged within the academic and medical establishments. In particular, investigation into a case study that had been central to and extensively cited in Money's research revealed serious flaws in optimal gender theory.

The collapse of optimal gender theory has led to true idiosyncrasy in the treatment of intersex people, both within Australia and globally. At the same time, a rhetoric of careful, responsive and conservative medical protocols for intersex has developed, which claims that only medically necessary treatment is offered, cautiously and with due regard to autonomy, human rights and an open future. Despite the paucity of information and evidence, it appears that the rhetoric disguises a great enthusiasm for early surgery. The cases seem to reflect a lack of care and caution in the treatment decisions. These claims will be considered in greater detail in chapters 4 and 7.

Optimal gender theory theorised a source of 'true sex' in the psyche, shaped by a combination of biological and cultural/social factors. Money was involved in the treatment of both intersex and trans patients and saw, through his clinical experience, the suffering of transsexual patients caused by dissonance between mind and body, justifying surgical intervention to give material expression to identity. This emphasis on psychic sex – gender identity – has emerged as a fertile ground on which to base new ideas of biologically determined true sex. If we take gender identity to be a fundamental human aspect of sex differentiation, finding a biological basis for binary development of gender identity will afford a sound and stable explanation for states of being and behaviour that challenge stereotypical notions of male and female behaviour. As expressed by Chief Justice Nicholson of the Family Court of Australia, a neurological basis for gender identity which develops in contradiction to somatic sex provides 'an explanation for

what is otherwise inexplicable.<sup>170</sup> Brain-sex binary theories have subsequently been taken up in trans cases in the Australian Family Court, but in earlier eras, there was much less consensus between legal and medical conceptions of legal sex and how it should be defined and categorised.

## 2.7 Law and the Sexed Body

Prior to the 18<sup>th</sup> Century, the legal response to hermaphrodites was complex. Sex status was salient to a range of political and legal rights and entitlements including marriage law, property law, and the law of succession, for example. As Daston and Park explain, ‘jurists could tolerate no middle ground between male and female; sex, like rank and age, was a legal “condition” that fitted or unfitted a person from marrying, inheriting property, bearing witness, and so forth, and was thus an essential determinant of legal identity.’<sup>171</sup> Although European law required all bodies to be unambiguously categorised as male or female, there is dispute over how sex determinations were made and by whom. Some commentators such as Foucault and Laqueur contend that hermaphrodites were entitled to determine their own sex,<sup>172</sup> and once a determination was made there could be no amendment or alteration.<sup>173</sup> According to Daston and Park, this was true up until the early modern period, but by the 17<sup>th</sup> century, hermaphrodites had come to be seen as sexualised beings first and foremost, associated with homosexuality, pornography and transvesticism.<sup>174</sup>

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<sup>170</sup> *Re Alex* (2004) 180 FLR 89 citing the lower Court decision in *Re Kevin*.

<sup>171</sup> Daston and Park, (n 112), 425.

<sup>172</sup> Michel Foucault, 'Introduction', *Herculine Barbin: Being the Recently Discovered Memoirs of a Nineteenth-Century Hermaphrodite* (Richard McDougall trans, Harvester Press, 1980) vii–xvii [trans of: *Herculine Barbin, dite Alexina B* (first published 1978)]; Laqueur, (n 48) 174.

<sup>173</sup> Julia Epstein, 'Either/Or – Neither/Both: Sexual Ambiguity and the Ideology of Gender' (1990) 7 *Genders* 99.

<sup>174</sup> Daston and Park, (n 109); Epstein, (n 173).

... once hermaphrodites came to stand for sexual ambiguity of all kinds, including the associated transgressions of sodomy and cross-dressing, the testimony of the hermaphrodite as to predominant sex became problematic.<sup>175</sup>

Thereafter, the testimony of medical experts was necessary to identify the category to which the hermaphrodite properly belonged.

The perception of hermaphrodites as supernatural or miraculous/monstrous in the early modern period gradually yielded to a biomedical approach which 'normalised' intersex in the sense of identifying the biological processes which produced variations of sex development.<sup>176</sup>

This normalisation was simultaneously pathologising.<sup>177</sup> As a variation of normal, these biological processes transgress 'correct' development and produce defective bodies. This perception of intersex as a biological defect rather than a naturally occurring biological variation persists within medical discourse.<sup>178</sup> Intersex is conceived as a mutation which produces inherently defective bodies.<sup>179</sup> People with intersex bodies are conceptualised as failed men and women. Eckert argues that shifting attitudes to hermaphroditism/intersex describes a shift 'from the notion of the *right sex* to *true sex* to *best sex*'.<sup>180</sup>

Historically, most Anglo-Australian cases addressing the legal status of people with variations of sex development have arisen in the context of the law of marriage. There are several Australian and English cases concerning nullity of marriage where the parties had not consummated the marriage. Often the evidence discloses that the wife had an intersex condition which has made

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<sup>175</sup> Daston and Park, (n 112) 428.

<sup>176</sup> This shift in perception was both piecemeal and gradual, beginning in the 16th century and culminating during the process of medicalisation of intersex in the late 19th century. Epstein, (n 173).

<sup>177</sup> Elizabeth Grosz, 'Intolerable Ambiguity: Freaks as/at the Limit' in Rosemarie Garland Thomson (ed), *Freakery: Cultural Spectacles of the Extraordinary Body* (New York University Press, 1996) 55.

<sup>178</sup> Leonard Sax, 'How Common is Intersex? A Response to Anne Fausto-Sterling' (2002) 39(3) *Journal of Sex Research* 174.

<sup>179</sup> Daston and Park, (n 112).

<sup>180</sup> Eckert, (n 131), 4 (emphasis in original).

sexual penetration difficult or impossible. These cases shed light on law's understanding of the 'natural' versus the 'artificial' body. For example, in *B v B*,<sup>181</sup> the judgment reports that the wife 'was born with certain male organs which were removed by operation when she was some 17 years of age.' During the marriage the parties did attempt sexual penetration, but without success. The wife argued that she was willing to undergo a vaginoplasty (surgical construction or enlargement of a vaginal cavity). The husband argued that the marriage could not be consummated because the creation of an artificial vagina could not result in 'natural' intercourse. The presiding judicial officer agreed; 'I do not consider that [the marriage] could be held to be consummated in the circumstances, having regard to the artificiality of her organ.'<sup>182</sup>

This conception of artificiality sits uneasily with the treatment paradigm for intersex children which was at that time emerging out of John Money's optimal gender theory. The medical paradigm that was being developed was dedicated to curing intersex by shaping the child's body and mind as unequivocally male or female. However, the judicial concern with the 'natural body' disrupts this project.

This decision was overturned in *Sy v Sy (Otherwise W)*<sup>183</sup> when the wife, who had similar anatomical variations, argued that surgery would permit penetration. Justice Willmer agreed:

If neither the ability to conceive nor the degree of sexual satisfaction to be obtained is a determining factor, what else, it may be asked, remains to differentiate between intercourse by means of an artificial vagina and intercourse by means of a natural vagina artificially enlarged? In either case full penetration can be achieved, and there is thus complete union between the two bodies.<sup>184</sup>

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<sup>181</sup> *B v B* (1955) 42 P 47 (Probate, Divorce and Admiralty Division).

<sup>182</sup> *Ibid.*

<sup>183</sup> *SY v SY (otherwise W)* (1962) 55 All ER 55.

<sup>184</sup> *Ibid* 60.

However, the distinction between artificial and natural genitals is raised again in *Corbett*,<sup>185</sup> which is discussed below. In the cases dealing with nullity of marriage, there is no question of the wife's status as a woman. Despite her apparent intersex embodiment she is unambiguously perceived as a woman, albeit a woman with congenital 'defects' or 'deformities.'

A significant case concerning the legal definitions of male and female was decided in 1971. In *Corbett*<sup>186</sup> Ormrod J had to determine whether a post-operative trans woman could be legally defined as a woman for the purposes of marriage. The trial judge, Ormrod J, had both medical and legal training, and seemed well-placed to hear the matter, given the extensive medical evidence that was tendered in the course of the hearing. The question of gender and sex was explicitly constructed as a biomedical issue that must be articulated through the lens of science. As Ormrod J notes in his judgment,<sup>187</sup> no less than nine medical experts gave evidence, two of whom were appointed by the Court. A considerable portion of the judgment is devoted to a close dissection of the medical evidence.

In keeping with the medicalised approach to defining sex and gender, and classifying 'anomalies' using various typologies, much of the judgment was devoted to teasing out the science of sex and gender, and evaluating the available evidence about the wife's embodiment against the different classifications. The medical evidence was both complex and contested and identified a number of criteria relevant to sex determination, with particular emphasis on chromosomes, gonads, genitals, psychology, hormones and secondary sex characteristics.<sup>188</sup> All but the first three criteria are excluded from Justice Ormrod's legal test of sex determination:

the law should adopt in the first place, the first three of the doctors' criteria, ie, the chromosomal, gonadal and genital tests, and if all three are congruent, determine the sex for the purpose of marriage accordingly, and ignore any

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<sup>185</sup> *Corbett* (n 23).

<sup>186</sup> *Ibid.*

<sup>187</sup> *Ibid* 89.

<sup>188</sup> *Corbett* (n 23) 100.

operative intervention. The real difficulties, of course, will occur if these three criteria are not congruent.<sup>189</sup>

He then cited the medical experts as authority for the proposition that:

the biological sexual constitution of an individual is fixed at birth (at the latest), and cannot be changed, either by the natural development of organs of the opposite sex, or by medical or surgical means. The respondent's operation, therefore, cannot affect her true sex.<sup>190</sup>

The distrust and rejection of surgical and medical re-constructions re-emerges later in the judgment where Ormrod J considers in obiter the issue of whether, if there was a marriage, it had been consummated:

I do not think that sexual intercourse, using the completely artificial cavity constructed by Dr Burou, can possibly be described in the words of Dr Lushington in *D v A (falsely calling herself D)* as 'ordinary and complete intercourse' or as 'vera copula - of the natural sort of coitus'. In my judgment, it is the reverse of ordinary, and in no sense natural. When such a cavity has been constructed in a male, the difference between sexual intercourse using it and anal or intra-crural intercourse is, in my judgment, to be measured in centimetres.<sup>191</sup>

In *Corbett*, Ormrod J made it clear that legal sex is determined by the features of the unsullied natural body. Any 'artificial' alterations to the body through medical or surgical processes do not alter the individual's true sex. Surgical modifications to the body should be understood as mere cosmetic inscriptions on the natural body rather than genuinely transformative. This provides a sharp contrast to the aims and assumptions of optimal gender theory which predominated at the time, whereby medical and surgical normalisation of the body, together with unambiguous sex assignment, was intended to cure intersex and fully determine the legal and social sex of intersex people. There is conflict between the medical and legal perceptions of

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<sup>189</sup> *Corbett* (n 23) 106.

<sup>190</sup> *Corbett* (n 23) 104.

<sup>191</sup> *Corbett* (n 23) 107.

sex determination. This is explicitly confronted by Ormrod J. Having cited one of the medical specialists stating 'we do not determine sex - in medicine we determine the sex in which it is best for the individual to live',<sup>192</sup> Ormrod J responded that criteria used by medical professionals are relevant to but 'do not necessarily decide, the legal basis of sex determination'<sup>193</sup> and noted that 'doctors decide the gender rather than the sex'.<sup>194</sup> Despite these words, the judgment assumes that sex and gender are primarily biomedical matters to be dissected forensically on the basis of medical diagnosis and evidence before they are filtered through a normative legal lens. The result is a pseudo-scientific amalgam of descriptive and normative gender assumption combined with a naturalised construct of the biological basis of sex binaries.

The *Corbett* test of sex determination was adopted across many common law jurisdictions and the relevant cases reflect the same attitude rejecting surgical and medical interventions as surface manipulations that do not impact on the true sex of the individual.<sup>195</sup> The test was adopted in the only reported Australian case determining the legal status of an intersex person for the purposes of marriage. In 1979, Bell J of the Family Court of Australia heard an application for nullity of marriage. The applicant in *In the Marriage of C and D (falsely called C) ('C and D')*<sup>196</sup> was the wife of the marriage. Her original application was for dissolution of marriage, but Bell J suggested to the wife's counsel that her application should be amended to seek a declaration of nullity. The husband did not appear or contest the application.

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<sup>192</sup> *Corbett* (n 23) 100.

<sup>193</sup> *ibid.*

<sup>194</sup> *Ibid* 104.

<sup>195</sup> See, eg, *Bellinger v Bellinger* [2003] 2 AC 467; *Re T* [1975] 2 NZLR 449; *W v W* [1976] 2 SA 308 (Nestadt J) (Local Division). See also discussion in Terry S Kogan, 'Transsexuals, Intersexuals and Same-Sex Marriage' (2004) 18 *Brigham Young University Journal of Public Law* 371.

<sup>196</sup> *C and D (falsely called C)* (1979) 5 Fam LR 636. ('*C and D*').

Proceeding on an ex parte basis, Bell J outlined the husband's birth and medical history, beginning with the statement that '[t]he parents of the husband appear to have been related.'<sup>197</sup> Bell J then turns to a description of the husband's siblings, who suffered from various physical and mental ailments, aside from 'one normal brother'.<sup>198</sup> No further mention of these facts is raised, but the implications are clear: the husband's family is genetically defective as a result of inbreeding, and his intersex condition was a manifestation of that. Justice Bell recounted the husband's medical history, relying apparently on an academic article published by the husband's medical professionals, who treated him when he was in his early teens, in an appalling breach of medical confidentiality.<sup>199</sup> The treatment outlined was removal of an ovary and uterus, four surgical procedures to 'correct his external sex organ'<sup>200</sup> and a mastectomy. The husband was diagnosed as a 'hermaphrodite verus'.<sup>201</sup> Justice Bell explicitly noted that the surgeries were 'to confirm the recognition that he was born a male and had been reared a male.'<sup>202</sup> The application for nullity was on the grounds that the wife's consent was not real because she was mistaken as to the identity of the husband under *Matrimonial Causes Act 1959* (Cth) section 18(1)(d)(ii). Justice Bell found that this ground was made out, as the wife had contemplated marriage to a man, but had married a person who was a 'combination of both male and female.'<sup>203</sup>

Justice Bell then raised a more profound question - whether a 'hermaphrodite' can marry at all. In purported reliance on the *Corbett* criteria for sex determination, Bell J concluded that, although the husband 'exhibited as male in two of the three criteria',<sup>204</sup> his chromosomes were

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<sup>197</sup> Ibid 525

<sup>198</sup> *C and D* (n 184), 341.

<sup>199</sup> Ibid 525-526

<sup>200</sup> *C and D* (n 184), 342

<sup>201</sup> Ibid. This variation of sex characteristics would now be termed 'ovotestes disorder.'

<sup>202</sup> *C and D* (n 184)

<sup>203</sup> Ibid 344

<sup>204</sup> Ibid.



female. This led him to conclude that the husband was neither man nor woman but was a combination of both, and therefore the marriage was void. On Justice Bell's analysis intersex people were neither male nor female and therefore could not marry at all. In reaching this conclusion, Bell J ignores Justice Ormrod's explicit caveat regarding intersex persons - '[t]he real difficulties, of course, will occur if these three criteria are not congruent.'<sup>205</sup> This decision has not been followed in any later cases. While it has not been directly overturned, as the particular facts have not subsequently come before the Court, in *Re Kevin*, Chisholm J commented 'In relation to his honour's conclusion that the individual was in law neither a man nor a woman, it is enough to say that I cannot imagine any circumstances in which I would be persuaded to accept such a conclusion.'<sup>206</sup>

*Corbett* and *C and D* are interesting for their supposed reliance on a strict biomedical understanding of sex while simultaneously ignoring or rejecting much of the medical evidence presented and the dominant medical paradigm for treatment of intersex in the 1970s, which was based on optimal gender theory. Optimal gender theory and the treatment protocols that were developed out of it were premised on the belief that sex and gender are fluid, and can be determined by a strict regimen of medical, surgical, social and psychological interventions directed to curing the defect of intersex ambiguity. The *Corbett* test of sex determination purports to identify the biological markers of true sex - fixed, immutable, natural and reliable. While the medical response has moved from a search for true sex to a search for best sex, the juridical approach rejects sex and gender fluidity as unreliable, untrustworthy and unnatural. Even biological markers such as hormonal balance and secondary sex characteristics are rejected on the basis that they cannot turn a man into a woman. Such markers are elastic and

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<sup>205</sup> *Corbett* (n 23) 172.

<sup>206</sup> *Re Kevin* (n 4) [160].

malleable. According to Ormrod J, the sex binary is both too rigid and too fragile to permit manipulation.

The *Corbett* test has been overturned in all Australian jurisdictions and most common law countries.<sup>207</sup> In the context of marriage, Australian law now recognises post-operative transsexuals as belonging to their sex of assignment.<sup>208</sup> The relationship between the legal and medical conceptions of sex and gender emerges again in 1993 in *Re A (a Child)*<sup>209</sup> which concerned a 14 year old who had been born with a variation of sex development called congenital adrenal hyperplasia. A had been medically and surgically assigned female in infancy. The application was for consent to medical and surgical intervention to re-assign A as a boy. Justice Mushin quoted extensively from medical reports and uncritically endorsed the medical paradigm of optimal gender theory which clearly underpinned the expert evidence. Early in his judgment his Honour stated: 'Despite the advice that A was in fact a female affected by the condition of congenital adrenal hyperplasia, both A's parents had the initial perception that A was in fact a male'.<sup>210</sup>

Justice Mushin's claim that A was 'in fact' a girl is ironic in this context. If he had adopted the legal criteria of *Corbett*, A was 'in fact' not a girl, because the key factors of genitals, gonads and chromosomes were not congruently female. If he had applied the dicta in *Re the Marriage of C and D*, A was neither a girl nor a boy. In 1993, neither of these cases had been overturned, but the legal framework established within them is not considered. In *Re A (A child)* the legal paradigm of sex has ceded authority to the medical paradigm. In the cases dealing with sex and gender hereafter, the legal perspective yields entirely to the medical perspective.

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<sup>207</sup> *Attorney-General (Cth) v Kevin* (2003) 172 FLR 300; *MT v JT*, 355 A 2d 204, 85-6 [28] (NJ, 1976); *R v Harris* (1988) 17 NSWLR 158; *A-G v Otahuhu Family Court* [1995] 1 NZLR 603; *AB v Western Australia* (2011) 244 CLR 390.

<sup>208</sup> *Attorney-General (Cth) v Kevin* (2003) 172 FLR 300.

<sup>209</sup> *Re A (A Child)* (1993) 16 Fam LR 715 ('*Re A*'). All references to the minor A have been italicised for clarity.

<sup>210</sup> *Ibid* [6].

## 2.8 Conclusion

In this chapter I have outlined some of the predominant theories about sex and gender that have developed over the last three hundred years and which continue to shape our understanding. I have focussed on the mid-20<sup>th</sup> century shift away from biological determinism which was made possible by feminist uptake of the distinction introduced by psychologists and sexologists between biological and psycho-social aspects of sex. Feminist theory adopted the conceptual framework distinguishing sex as a biological category from gender as a social, cultural and psychological experience and paradigm. Some of the problematic implications of the surrender of biological sex and the body to the discursive construction of science, biology and medicine have been discussed. A key problem for feminist theory is the tendency of the sex/gender dualism to attach itself to and produce and replicate other problematic dualisms such as nature/culture, mind/body and innate/voluntary. Secondly, I have tracked through significant moments in bioscience's search for the source and signifier of true sex since the Victorian era. I have paused to consider theories proposing the gonads, the sex hormones, and the sex chromosomes as candidates. I have foreshadowed the thesis that brain-sex binary theory is the latest candidate in that list. It represents the modern bio-medical conceptualisation of how binary gender emerges as part of the process of binary sex differentiation, operating in the material soma and structure of the brain. Finally, I have explored some of the dicta on the sexed body and law's rigid categories of male and female leading up to the cases discussed in chapters 6 and 7. In chapter 3 I will explore the specific use of brain organisation theory among brain sex binary theories and explain the implications of the theory for legal responses, as well as identify some of the controversial claims made in the body of research supporting brain organisation theory.

## Chapter 3 Brain-Sex Binary Theories: From Brain Organisation Theory to Neuroculture

### 3.1 Introduction

The theory that our brains are organised and operate differently depending on our sex has broad support. The fact that such an approach reinforces strongly held beliefs about differences between men and women helps explain its particular appeal. This chapter introduces and critiques brain organisation theory, the predominant scientific theory in this field. This theory posits that androgen exposure in utero changes the default female brain into a male brain, which then responds to postnatal androgens to produce masculine-typical behaviour; and that an absence of androgens produces a female brain, and female sex hormones then operate postnatally to produce feminine-typical behaviour.<sup>211</sup>

In this chapter I consider different bio-scientific and social science accounts of gender identity and its relationship to biology, contrasting essentialist and deterministic accounts with more complex ideas about how gender identity develops. Although different researchers adopt varying notions about gender identity in the context of a nature/nurture paradigm, many brain organisation theorists tend towards an essentialist understanding. I provide an outline of brain organisation theory and explore different implications and conclusions it suggests. The second section of the chapter condenses various critiques of studies and research into brain organisation theory which cast doubt on the reliability of the data, how the data is interpreted, and how the interpretations are disseminated beyond neuroscientific circles. Section three engages with neuroculture, particularly the ontology that underpins a neuroscientific understanding of the person – the cerebral subject.

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<sup>211</sup> See section 3.2.2 below.

Brain organisation theory accounts of differences in androgen exposure and sex-differentiated behaviour intersect with the quest to find the biological source and marker of true sex. A notable aspect of both quests is that they begin with a pre-existing idea of what they are looking for and where they will find it. The search for neurological sources of gender differences has a relatively recent history, although bio-scientific explanations of behavioural differences between men and women have, as I will show, a lengthy history. This search for true sex was taken up as a scientific endeavour in the 18th century and tends to be more acute at times of conflict and contestation over women's political and social roles, and challenges to social and sexual orthodoxy. During periods of anxiety over boundary crossing, such as women claiming political power, or people of different races seeking to 'pass' as white, or a perceived rise in tolerance for homosexuality, interest in finding scientific evidence of hierarchical categories of sex and race has increased.<sup>212</sup> Reis, for example, argues that concerns about hermaphroditism seem to emerge more at times where anxieties about race relations and homosexuality are spilling into popular and scientific discourse.<sup>213</sup>

In chapter 2 I considered the theory that hormones are a candidate for the source and marker of true sex. Hormones also figure largely in the search for sex differences in the brain to explain the behavioural differences between men and women. Hormones are taken to have a dual role in the process, by their direct action on the brain and behaviour, but also in their role in pre-natally organising male and female brains differently. This theory of brain organisation has many adherents in the biosciences<sup>214</sup> and is cited to explain not only behavioural differences

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<sup>212</sup> Elizabeth Reis, 'Impossible Hermaphrodites: Intersex in America, 1620-1960' (2005) 92(2) *The Journal of American History* 411; Geertje Mak *Doubting Sex: Inscriptions, bodies and selves in nineteenth-century hermaphrodite case histories* (Manchester University Press, 2012); Dreger, *Hermaphrodites and the Medical Invention of Sex*, (n 51); Reis (n 52).

<sup>213</sup> Reis, (n 212).

<sup>214</sup> For example, A Garcia-Falgueras and D F Swaab, 'Sexual hormones and the brain: an essential alliance for sexual identity and sexual orientation' (2010) 17 *Endocr Dev* 22; Ai-Min Bao and Dick F Swaab, 'Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders' (2011) 32(2)

between men and women but also the biological source of gender dysphoria and homosexuality. Behaviours and identities which challenge orthodox sex roles and strict sex/gender binarity are configured as biologically determined, which quells their disruptive potential, since any departure from sex/gender binarism can be explained as a biological anomaly. This theory exemplifies a wider thesis that there is a bio-neural basis of gender as a natural binary tied to biological processes of sex differentiation.

Below I examine the research and literature supporting, relying on and seeking to extend the reach of brain-sex binary theories. I also foreshadow that this research is received and translated in broader cultural fields, including law, to provide a rhetorical resource which bestows special credence on biomedical accounts which position gender identity development as a bio-neural process. These are the set of ideas which I refer to as 'brain-sex binary theories.' It is in this context that law supports the practice of changing the sexed embodiment of trans minors to better align with their neurologically determined gender identity. As I discuss in more detail in section 3.4 below, the cultural uptake of a neuroscientific view of the person, and the discourse that elucidates that cultural uptake, is referred to as 'neuroculture.'<sup>215</sup> Neuroculture describes the processes and results of broader mediation of neuroscience into political, social, medical, legal and philosophical discourses, for example, which contribute to the idea that personhood is determined by brainhood.

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*Frontiers in Neuroendocrinology* 214; J N Zhou et al, 'A sex difference in the human brain and its relation to transsexuality' [68] (1995) 378(6552) *Nature* 68; Melissa Hines, Charles Brook and Gerard S Conway, 'Androgen and Psychosexual Development: Core Gender Identity, Sexual Orientation, and Recalled Childhood Gender Role Behavior in Women and Men with Congenital Adrenal Hyperplasia (CAH)' (2004) 41(1) *The Journal of Sex Research* 75; M Hines, 'Neuroscience and intersex' (2004) 17(8) *Psychologist* 455; Larry Cahill, 'Why sex matters for neuroscience' (2006) 7(6) *Nature Reviews Neuroscience* 477; Marek Glezerman, 'Yes, there is a female and a male brain: Morphology versus functionality' (2016) 113(14) *Proceedings of the National Academy of Sciences* E1971.

<sup>215</sup> Frazzetto, Giovanni, and Suzanne Anker 'Neuroculture' (2009) 10(11) *Nature Reviews Neuroscience* 815

The broader implications of the 'seductive allure'<sup>216</sup> of brain sex research on legal attitudes to sex, gender and sexuality are more difficult to predict. On the one hand, neuroscience has the potential to elucidate the relationship between mind and body. The brain becomes a nexus between the inner self and the corporeal self. Neuroscience may provide insights into the mind/body relationship, either by bolstering or by challenging dominant epistemologies in which congruence of mind and body can be achieved through the domination of the body to shape it into an expression of identity. Such insights may prompt a rethinking of legal and medical approaches which assess entitlement to body shaping medicine. On the other hand, many commentators express concern at the reductionism they see as characteristic of neuroscientific accounts of human essence and identity.<sup>217</sup> Neuroscience has the potential to replicate other forms of bio-essentialism which have emerged in related contexts such as immunology and genetics.<sup>218</sup>

### 3.2 Brain Sex and Gender Identity

Although throughout the thesis I refer to a particular theory or group of related theories about gender development with phrases like 'brain organisation theory' and 'essentialist' it is important to add a caveat that scientists who contribute to and explore brain organisation theory and brain-sex theories more broadly are not a homogenous group with a uniform perspective. As Jordon-Young says, 'their ideas diverge in significant ways from one another, so

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<sup>216</sup> Deena Skolnick Weisberg et al, 'The Seductive Allure of Neuroscience Explanations' (2008) 20(3) *Journal of Cognitive Neuroscience* 470. Weisberg et al researched the impact of neurological research on the credibility of scientific explanations. They found that people are more likely to believe a scientific explanation if the explanation is framed as a neurological discovery, even if the neurological explanation is of no relevance to the evidence or conclusion. They refer to this phenomenon as the 'seductive allure' of neuroscientific explanations.

<sup>217</sup> Walter Glannon 'Our Brains Are Not Us' *Bioethics* (2009) 25(6) 321-329.

<sup>218</sup> Ilan Dar-Nimrod, 'Postgenomics and genetic essentialism' (2012) 35(5) *Behavioral and Brain Sciences* 362; Nikolas Rose *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (2007, Princeton University Press); Fernando Vidal (2009) 22(5) 'Brainhood, anthropological figure of modernity' *History of the Human Sciences* 5, 6.

the story of how brain organization research unfolded should not be read as the story of a tight scientific club.’<sup>219</sup> For the purposes of my argument I identify core theories and development models that are shared by most researchers working within the field.

The critique of the research that follows is concerned with the extent to which the problems that dogged research on hormones, chromosomes and biological sex differentiation processes more broadly are also impacting on brain organisation theory. Those problems arise out of an approach which takes sex differences and gender stereotypes as a starting point for research and research design. Brain organisation theory has many critics both within and outside the discipline of neuroscience, who have developed comprehensive and detailed responses and critiques to the theory, the research and the dissemination of the research.<sup>220</sup> I have relied heavily on this material to inform the discussion below. The material identifies a range of problems and issues in the brain organisation research - such as small study size, the ‘file

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<sup>219</sup> Jordan-Young, (n 1) loc 182.

<sup>220</sup> See, for example, *ibid*; Rippon, (n 45); Gina Rippon et al, 'Recommendations for sex/gender neuroimaging research: key principles and implications for research design, analysis, and interpretation' (2014) 8 *Frontiers in Human Neuroscience* 650; Venessa Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 1: Critical Gender Perspectives on Current Research Practices' (2019) 15(2) (Neurogenderings) *The Scholar and Feminist Online*; Venessa Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives' (2019) 15.2( Neurogenderings) *The Scholar and Feminist Online*; Cordelia Fine, *Delusions of Gender: How Our Minds, Society, and Neurosexism Create Difference* (WW Norton & Company, 2010); Cordelia Fine, 'Explaining, or Sustaining, the Status Quo? The Potentially Self-Fulfilling Effects of 'Hardwired' Accounts of Sex Differences' (2012) 5(3) *Neuroethics* 285; Liv Hausken, Bettina Papenburg and Sigrid Schmitz, 'The Processes of Imaging / The Imaging of Processes' (2018) 4 *Catalyst: Feminism, Theory, Technoscience* 1; Jill B Becker et al, 'Strategies and Methods for Research on Sex Differences in Brain and Behaviour' (2006) 146(4) *Endocrinology* 1650; Robyn Bluhm, 'New Research, Old Problems: Methodological and Ethical Issues in fMRI Research Examining Sex/Gender Differences in Emotion Processing' (2013) 6(2) *Neuroethics* 319 ('New Research, Old Problems'); Schmitz and Höppner, (n 74); Sean P David et al, 'Potential Reporting Bias in Neuroimaging Studies of Sex Differences' (2018) 8(1) *Scientific Reports* 6082; Isabelle Dussauge and Anelis Kaiser, 'Neuroscience and Sex/Gender' (2012) 5(3) *Neuroethics* 211; Lise Eliot, 'The Trouble with Sex Differences' (2011) 72(6) *Neuron* 895; Giordana Grossi, 'Hardwiring: innateness in the age of the brain' (2017) 32(6) *Biology & Philosophy* 1047; Daphna Joel, 'Male or Female? Brains are Intersex' (2011) 5(57) *Frontiers in Integrative Neuroscience* 57; Daphna Joel, Alicia Garcia-Falgueras and Dick F Swaab, 'The Complex Relationships between Sex and the Brain' (2019) *The Neuroscientist* 1; Kaiser, (n 17).



drawer phenomenon'<sup>221</sup> and the significance of effect size - but in this chapter my focus is on the entanglement of neuroscience research with pre-existing and tacit assumptions and stereotypes about the nature of man and woman and male and female. Relying on the substantial literature critiquing this strand of research, I explore the extent to which preconceptions about sex and gender have infected the research and its interpretation and distribution. The impact of this on the research is crucial to the interrogation of legal cases that I undertake in later chapters because neuroscientific theories about sex and gender generate a bioscientific basis and justification for legal regulation of sex boundaries. As I discuss further in chapter 6, brain-sex binary theories have been broadly accepted as a credible and persuasive account of 'gender dysphoria,' which has led to significant changes in the law relating to medical treatment of minors.

### 3.2.1 What is gender identity?

Gender identity is an internal sense of oneself as a gendered person, usually as male or female. Increasingly, diverse gender identities are recognised and acknowledged. A Gender Agenda explain 'For gender diverse people, their identity is about presenting something more outwardly authentic to the world, whether they understand themselves to be differently gendered, or have no gender at all.'<sup>222</sup> There is no inevitable correlation between gender identity, sexual orientation, gendered behaviour/expression and biological sex characteristics,

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<sup>221</sup> The file drawer phenomenon describes the situation where research that produces negative results tends to go unpublished, and instead sits in the file drawer. By comparison, research which yields a positive result or correlation is far more likely to be published. This phenomenon is not unique to neuroscience of sex differences. However, its impact is acute in this field because of the tendency for researchers to include sex as a variable and to report any detected differences but ignore a lack of difference. As Bluhm comments, 'no studies report simply that they have not found the expected differences. Instead, researchers find and report some kind of between-group difference in their data.' Bluhm, 'New Research, Old Problems' (n 220), 875.

<sup>222</sup> A Gender Agenda, *Information Hub: What is Gender Diversity?* <<https://genderrights.org.au/information-hub/what-is-gender-diversity/>>.

though a person's gender identity is usually consistent with biological sex. Because of this correlation, many people assume that sex, gender expression, sexual orientation and gender identity are naturally aligned and any variation or diversity is pathological. Further, as Jordan-Young and Rumiati explain, 'In science as in popular culture, sex, gender and sexual orientation are frequently merged into a simple composite "sex": a package deal, with both the origin and the ultimate purpose being reproduction.... In this framework if one part of the package is atypical, it is assumed that the other parts will also be atypical.'<sup>223</sup>

Gender identity is one facet of the modern concept of gender itself. Gender is a relatively recent concept which became popularised in the mid-20<sup>th</sup> century. In chapter 2 I discussed some of the consequences of the development of a dichotomy between sex – the biological manifestation of male and female bodies and reproductive systems – and gender – the psychological, social, cultural and performative aspects of sex. While the precise footprint of gender is prone to shift over time, it has generally been interpreted to include at least three fundamental elements: sexual orientation, gender identity, and gender expression including behaviour, aptitudes, outward presentation, childhood activities and propensities. Since the 1950s or so, gender identity has gradually been distinguished from sexual orientation and gender expression, although as noted these different aspects of sex and gender are often conflated or assumed to correlate naturally. Gender identity is seen as an intensely personal but critical part of a person's identity and sense of self.

The increasing number of people, including minors, who openly identify as transgender since the 1950s, together with medical science's developing technology to shape the sexed body, has prompted more attention to gender identity and how it develops. Feminist theories initially

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<sup>223</sup> Jordan-Young and Rumiati, (n 17) 306.

engaged with gender as a social construct, while other perspectives have adopted essentialist or interactionist theories. As noted by Brinkman et al;

Previous perspectives on gender identity in children focused on essentialist, developmental, or socialization theories, which have often emphasized a deterministic, static, dichotomous, and/or passive perspective on identity development.<sup>224</sup>

Judith Butler argues that we experience our gender identity coherently over time as a result of sedimented regulatory practices. Such practices operate on a normative ideal of the human, including a presumption that normal people are heterosexual and cisgendered.<sup>225</sup> This argument works against the view that gender is a direct expression of bodily sex. “Sex” is not denied, but its meaning is disputed: nothing about being assigned female at birth determines what kind of life a woman will lead and what the meaning of being a woman might be.<sup>226</sup>

Gender is a 'fictive construction' that naturalises the experience of being male or female. Atkins defines Butler's thesis, that 'gender identity is a form of “reiteration” effected when one enacts the socially endorsed forms of sexed identity.’<sup>227</sup> For Butler, gender is a dynamic process which shifts over time. ‘We depend on gender as a historical category, and that means we do not yet know all the ways it may come to signify, and we are open to new understandings of its social meanings.’<sup>228</sup>

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<sup>224</sup> Britney G Brinkman et al, 'Children's Gender Identity Development: The Dynamic Negotiation Process Between Conformity and Authenticity' (2014) 46(6) *Youth & Society* 835, 836.

<sup>225</sup> Judith Butler, *Gender Trouble* (Routledge, 1990).

<sup>226</sup> Judith Butler, 'the Backlash against “gender ideology” must stop' 21 January 2019 New Statesman <<https://www.newstatesman.com/2019/01/judith-butler-backlash-against-gender-ideology-must-stop>>.

<sup>227</sup> Kim Atkins, 'Re Alex: narrative identity and the case of gender dysphoria' (2005) 14(1) *Griffith Law Review* 1, 5 fn20.

<sup>228</sup> Judith Butler, quoted in Alona Ferber 'Judith Butler on the Culture Wars, JK Rowling and living in “anti-intellectual times” 22 September 2020 New Statesman, <https://www.newstatesman.com/international/2020/09/judith-butler-culture-wars-jk-rowling-and-living-anti-intellectual-times>.

As Merritt says, 'Gender is not a sign we find written on the body, like a chromosome or specific body part. It is an attitude we take up, a way of being-in-the-world, of behaving, dressing, speaking, and moving, and... a set of norms and rules for making sense of ourselves and others.'<sup>229</sup> Hyde outlines theories of gender that have predominated in modern culture.<sup>230</sup> In particular she distinguishes between the 'gender differences' and the 'gender similarities' hypotheses.<sup>231</sup> The gender differences hypothesis looks for confirmation of stereotypical differences between men and women, shaping dominant paradigms and policies. The gender similarities hypothesis is that men and woman are alike on most (though not all) psychological variables.<sup>232</sup> Research on gender identity as a product of bio-neural processes is almost exclusively focussed on gender differences.

Historic understanding shifts over time, and one emerging understanding is that gender identity develops in such a deep and innate way that it only comes to consciousness when there is conflict between somatic sex and gender identity. 'Within this theory, gender identity is not necessarily something that develops, but simply unfolds over time.'<sup>233</sup> Based on the information provided in published research, neuroscience studies often seem to assume that male and female participants are consistently and exclusively cisgender, except where the research has a specific focus on transgender or transsexual brains. Although much of the research records sex as a criteria and reports any sex differences that are measured, there is rarely any exploration in the published research of whether participants may have identities other than cisgender.<sup>234</sup> This means that much of the brain-sex binary theory research on gender identity and its

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<sup>229</sup> Michele Merritt, 'Making (non)Sense of Gender' In T Froese & M Cappuccio, (eds) *Enactive Cognition at the Edge of Sense-Making: Making Sense of Non-Sense* part of the series: New Directions in Cognitive Science. Palgrave-MacMillan, 2014) 285, 288.

<sup>230</sup> Hyde, (n 76).

<sup>231</sup> Ibid; Janet Shibley Hyde, 'The Gender Similarities Hypothesis' (2005) 60(6) *American Psychologist* 581.

<sup>232</sup> Hyde, 'The Gender Similarities Hypothesis', (n 212).

<sup>233</sup> Brinkman et al, (n 224) 836.

<sup>234</sup> David et al, (n 220); Schmitz and Höppner, (n 74) 69.

development is confined to people who identify as transsexual, and recruitment is usually via a gender clinic.<sup>235</sup> The research participants are drawn from a somewhat narrow cohort of a wider community of people whose identities are other than cisgender. For example, recruitment is almost invariably confined to trans participants who meet the DSM criteria for gender dysphoria or similar diagnostic standards.<sup>236</sup> Some studies do use slightly more nuanced criteria, but still base selection on meeting formal criteria for gender dysphoria.<sup>237</sup> There is no evidence that studies explore more complex or nuanced accounts of non-orthodox gender identity such as gender fluid, non-binary, bigender, agender, gender queer, and gender non-conforming.<sup>238</sup> Instead the focus in mainstream neuroscientific research is on gender identities and dysphorias which directly invert the sex/gender binary without disrupting its binary claims. Some trans narratives have adopted a neurological understanding of gender and have argued that this paradigm provides clear support and justification for medical interventions to transition to the 'opposite' sex:

If there are demonstrable and functionally relevant features in the brain that underlie beliefs or proclivities that determine a person's behaviour from an early age, and may be immutable, then the case for a redefinition of gender and for reassignment surgery in transsexuals is strengthened.<sup>239</sup>

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<sup>235</sup> The other major cohort of study participants is intersex people, which I consider more closely in section 4.4.

<sup>236</sup> For example, see Frank P M Kruijver et al, 'Male-to-Female Transsexuals Have Female Neuron Numbers in a Limbic Nucleus' (2000) 85(5) *J Clin Endocrinol Metab* 2034; J N Zhou et al, 'A sex difference in the human brain and its relation to transsexuality' (1995) 378(6552) *Nature* 68; E R Gizewski et al, 'Specific cerebral activation due to visual erotic stimuli in male-to-female transsexuals compared with male and female controls: An fMRI study' (2009) 6 *Journal of Sexual Medicine* 440; Stephanie H M van Goozen et al, 'Organizing and activating effects of sex hormones in homosexual transsexuals' (2002) 116(6) *Behavioral Neuroscience* 982.

<sup>237</sup> Leire Zubiaurre-Elorza et al, 'Cortical Thickness in Untreated Transsexuals' (2012) 23(12) *Cerebral Cortex* 2855.

<sup>238</sup> These various terms are used to indicate the complexity of gender, not to signify new binaries or distinct and discrete categories. The point is that many of these identities challenge gender binarism and conceptualise gender as diffuse and multifactorial.

<sup>239</sup> Joe Herbert, 'Who do we think we are? The brain and gender identity' (2008) 131(12) *Brain* 3115, 3116

Despite the focus on trans experiences, mainstream neuroscientific research on brain sex generally ignores the 'performative and contextual character of sex/gender,'<sup>240</sup> though there is increasing recognition and acknowledgement of the limitations of conceptualising gender as a strict binary.<sup>241</sup> Although some articles address psycho-social causes for trans identity, such explanations are often reductive and overly-simplistic. In those instances they do not engage with performative or complex cultural meanings of gender. For example, Steensma et al recount theories which identified 'multiple cumulative parent- and child-related risk factors' for gender dysphoria:

In these theories, gender dysphoria was hypothesized to develop if both general child and parental factors (e.g. anxiety of the child, psychopathology of the parents) and specific factors (e.g. lack of limit setting of parents, fear of male aggression in mothers, and a feminine/beautiful appearance in boys or a tough appearance in girls) converged during a critical period early in the child's life.<sup>242</sup>

An essentialist understanding of gender conceptualises an unquestioned natural binary between male and female gender and 'the basic assumption of two sexes is the premise for applying difference-oriented methods in brain research, through which each group is assumed to be inherently homogenous.'<sup>243</sup> Different cohorts are assumed to be monolithic, so that comparisons between female heterosexuals and male homosexuals are seen as legitimate and credible. This suggests that all or most heterosexual women (as an example) have brains that are the same in important ways.

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<sup>240</sup> Isabelle Dussauge and Anelis Kaiser, 'Re-Queering the Brain' in Robyn Bluhm, Heidi Lene Maibom and Anne Jaap Jacobson (eds), *Neurofeminism (New Directions in Philosophy and Cognitive Science)* (Palgrave Macmillan, 2012) 122.

<sup>241</sup> For example, Lih-Mei Liao et al, 'Determinant factors of gender identity: A commentary' (2012) 8(6) *Journal of Pediatric Urology* 597, 598.

<sup>242</sup> Thomas D Steensma et al, 'Gender identity development in adolescence' (2013) 64(2) *Hormones and Behavior* 288, 291.

<sup>243</sup> Sigrid Schmitz and Grit Höppner, (n 74) 3.

A number of scholars who have engaged in critical analysis of brain organisation theory such as Rebecca Jordan-Young,<sup>244</sup> Gina Rippon<sup>245</sup> and Cordelia Fine<sup>246</sup> have observed that frequently the groupings used in brain organisation research, such as homosexual, heterosexual, trans and cisgender are also treated as unproblematic uniform categories that are essentially fixed and 'hard-wired'. Homosexuality is often used as an experimental criteria in research on the male or female brain. In the early research in particular (1960s and 1970s), sexual orientation 'was treated as a master element that conveys all (or at least the most important) information about masculine and feminine sexuality.'<sup>247</sup> Accordingly much brain organisation research has been about the neurological origins of homosexuality. Similarly, gender identity is regarded as a characteristic that is normatively keyed to biological sex. Researchers look for evidence that gender identity is a neurological artefact which will reflect fetal hormone exposure.

As Jordan-Young notes,<sup>248</sup> scientists researching the neural correlates and causes of homosexuality spend little time on defining homosexuality and considering who should be included and who excluded from the category of 'gay men,' for example. '[S]cientists' extremely different ways of measuring "homosexuality" have contributed to a network of studies that look convincing and mutually supportive on the surface, but in fact are fundamentally at odds with one another'<sup>249</sup> because they use different criteria for inclusion in the category. Whether the research design selects sexual desire, sexual behaviour, self-identification or some other measure of inclusion is rarely discussed in the studies. Yet each of these metrics may include or exclude a very different cohort.<sup>250</sup> These different criteria will have different cultural and even

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<sup>244</sup> Jordan-Young, (n 1)

<sup>245</sup> Gina Rippon, (n 45).

<sup>246</sup> Cordelia Fine, (n)

<sup>247</sup> Jordan-Young, (n 1) loc 1762

<sup>248</sup> Jordan-Young, (n 1).

<sup>249</sup> Ibid loc 2090

<sup>250</sup> Rebecca M Young and Ilan H Meyer, 'The Trouble With "MSM" and "WSW": Erasure of the Sexual-Minority Person in Public Health Discourse' (2005) 95(7) *American Journal of Public Health* 1144.

racial signification. For example, among some black and Hispanic urban American communities, the term 'down-low' is used to describe black or Hispanic men who have sex with other men, but who do not identify as gay, because 'gay' identity is coded as white.<sup>251</sup>

Jordan-Young reports that many studies use self-identification as the threshold test. However, she relates an interesting comment from a prominent neuroscientist who researches in the area:

You may have some gay men who will tell you they're heterosexual, but not if they know that the confidentiality of the project is high. And under questioning and interactions and interchange, as well as filling out questionnaires, if they're consistent, we keep them as subjects. If they check off straight and then they start checking off gay and then they tell you straight and they tell you gay, we're not sure what's going on. We're not sure if the person is just having fun with us, we're not sure if the person is themselves not sure of who they are, and when that would happen, we'd exclude them from participating further in the study.<sup>252</sup>

This suggests that the researchers in this study, by limiting the variables, in fact removed complexity and nuance of sexual orientation from the study at the outset, on the assumption that the exclusion of these variables would render each focus group appropriately homogenous. 'In this view, subjects who don't fit the profile are simply lying, or perhaps more charitably, self-deluded.'<sup>253</sup> Both sexual orientation and gender identity are complex and multifactorial but are treated as self-evidently straightforward and unproblematically binary.

Brain organisation theory which adopts an essentialist model, 'relies on simple comparisons of female and male subjects at a single point in time and traces any resulting group differences

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<sup>251</sup> Richard J Wolitski et al, 'Self-Identification as "Down Low" Among Men Who Have Sex with Men (MSM) from 12 US Cities' (2006) 10(5) *AIDS and Behavior* 519.

<sup>252</sup> Jordan-Young, (n 1) loc 2099.

<sup>253</sup> Ibid 2099.



directly back to fixed biological causes.’<sup>254</sup> Essentialists do not consider that gender is constructed or produced and reproduced through social and cultural interaction. Instead, it is understood primarily as a biological artefact produced in the brain through the same processes of hormonal fluctuations that produce sexually dimorphic genitals.<sup>255</sup> For example, writing on ‘gender identity disorder,’ Coolidge et al invoke biology, which is contrasted with choice: ‘The findings may also imply that gender identity may be much less a matter of choice and much more a matter of biology.’<sup>256</sup> Social and cultural factors may influence aspects of gender’s expression or conventions, but follow the hardwired sex of the brain. As discussed in chapter 2, biological features are constructed as static, even for some commentators who are not wedded to an essentialist understanding of gender identity.<sup>257</sup> As gender identity is seen as biologically produced, it is constructed as inflexible and unchanging once it emerges or develops.

A competing concept of gender identity is that gender develops as a result of socialisation processes, whereby a child learns and internalises their gender and the behaviour appropriate to that gender through social interactions. This theory of gender sees it as an entirely psycho-social phenomenon that is not determined by biological factors, including biological sex characteristics such as genital, gonadal or chromosomal sex or hormone exposure.<sup>258</sup> Both essentialism and socialisation concepts of gender development buy into the established dichotomy of nature versus nurture which assumes that ‘biological influences on behavior can

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<sup>254</sup> Bentley et al, ‘Improving Practices for Investigating Spatial ‘Stuff’: Part 2: Consideration from Critical NeuroGenderings Perspectives’, (n 220) 2.

<sup>255</sup> See, for example, Bao and Swaab, ‘Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders’, (n 101).

<sup>256</sup> Frederick L Coolidge, Linda L Thede and Susan E Young, ‘The heritability of gender identity disorder in a child and adolescent twin sample’ (2002) 32(4) *Behavior genetics* 251, 251.

<sup>257</sup> Maggie Price and Avy Skolnik, *Gender Identity* (Thousand Oaks The SAGE Encyclopedia of Psychology and Gender, SAGE Publications, Inc) [663-667].

<sup>258</sup> Kay Bussey and Albert Bandura, ‘Social Cognitive Theory of Gender Development and Differentiation’ (1999) 106 *Psychological Review* 676.

be isolated from social influences, which has justified a preoccupation with determining which of the two is the "bedrock" source of gendered behavior.<sup>259</sup>

More recently, researchers and theorists have developed more interactive theories about how gender identity develops within an interplay of many factors, some of which are deemed biological and some of which are deemed psycho-social.<sup>260</sup> Interactive theories do not presuppose that nature and nurture are distinct categories. For example,

Interactive models recognize that hormonal input may indeed affect behavior but also demonstrate that the pathways are reciprocal since behavior has also been shown to affect hormone levels.<sup>261</sup>

Dichotomising biology and culture, as discussed in chapter 2, is challenged by research which better describes the process of gender identity development as 'a loop-back interchange of bodily, behavioral, environmental, interactive, and social structural factors.'<sup>262</sup> Essentialism is premised on both a nature/nurture binary and a male/female binary. Challenges to essentialism in neuroscience of sex/gender have problematised the simplistic heteronormative assumptions that abound. Employing transgressive and radical theoretical frameworks such as neurofeminism and queer theory has enriched neuroscientific discourses. For example, as Dussauge and Kaiser suggest:

...one of queer theory's strategies is to explore the diversity of genders and sexualities that emerge despite and, paradoxically, as a necessary counterpart of the hegemonic heterosexual discourse.<sup>263</sup>

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<sup>259</sup> Ivy Kennelly, Sabine N Merz and Judith Lorber, 'What Is Gender?' (2001) 66(4) *American Sociological Review* 598, 599.

<sup>260</sup> For example, Carol Lynn Martin, Diane N Ruble and Joel Szekrybalo, 'Cognitive theories of early gender development' (2002) 128(6) *Psychological Bulletin* 903.

<sup>261</sup> Kennelly, Merz and Lorber, (n 259) 599.

<sup>262</sup> Ibid.

<sup>263</sup> Isabelle Dussauge and Anelis Kaiser, 'Re-Queering the Brain' in Robyn Bluhm, Heidi Lene Maibom and Anne Jaap Jacobson (eds), *Neurofeminism* (Palgrave Macmillan, 2012) 121-144, 122

Queer theory reveals the extent to which normative categories such as heterosexual and cisgender are themselves distorted constructs, positioned as innate, inexorable and static defaults. As Liao et al argue, 'Self-identification as male or female is not a fixed attribute waiting to unveil itself, rather an expression of complex, multiple and interactive developmental processes.'<sup>264</sup> Queer theory can 'highlight discourses and practices through which sex/gender and sexuality are constituted, such as speech acts, everyday social practices and the making of social norms, or the frames of production of scientific knowledge.'<sup>265</sup> Bioscientific knowledge production in relation to gender identity development is partially constituted through discourses which conceptualise and represent gender as simplistic and binary. These should be challenged by identifying a more nuanced and accurate account of gender and gender identity.

An understanding of gender as a complex, multilevel, hierarchical structure that shapes not only institutions, interrelations, cognition and perception, but also the brain, endocrine system, and the manifestation of evolutionary processes, can bring about better and more informative science.<sup>266</sup>

Rather than a simple, linear biological process that creates a fixed, stable and binary identity as male or female, gender identity - including cisgender - development is complicated, multivariant, fluid and dynamic. As Jordan-Young and Rumiati observe, 'whether understood as a cultural frame or as an individual cognitive structure, gender is so powerful that it is difficult to get a useful purchase on how it operates.'<sup>267</sup> Gender is not only complex at an individual level, but has social, cultural and institutional salience as well:

As the concept of gender has developed in the social sciences, its definition has moved from an attribute of individuals to a major building block in the social order and an integral element in every aspect of social life. Over the last 20 years, gender has come to be viewed by social scientists as a socially constructed institutional arrangement, with gender divisions and roles built into all major social institutions such as the economy, the family, the state, culture, religion, and the law, that is, the gendered social order.<sup>268</sup>

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<sup>264</sup> Lih-Mei Liao et al, 'Determinant factors of gender identity: A commentary' (2012) 8(6) *Journal of Pediatric Urology* 597, 598.

<sup>265</sup> Dussauge and Kaiser, (n 263) 122.

<sup>266</sup> Cordelia Fine et al, 'Plasticity, plasticity, plasticity...and the rigid problem of sex' (2013) 17(11) *Trends in Cognitive Sciences* 550, 551.

<sup>267</sup> Jordan-Young and Rumiati, (n 17) 5.

<sup>268</sup> Kennelly, Merz and Lorber, (n 259) 600.

As individuals, we 'do gender' and gender is done to us. When essentialists and brain organisation theorists conceptualise gender, it can be simplistic and highly individualised. It is rarely conceptualised as a construct, but often seen as the emergence of an innate, ineffable and static pillar of human consciousness. As noted above, brain organisation theory, while not monolithic, tends to adopt and endorse an essentialist perspective on how gender and gender identity are produced. These perspectives tend to be disseminated across different discourses, and in law have been influential in how law has constructed and reinforced legal sex boundaries as delineating natural categories.

### 3.2.2 Brain-sex binary – brain organisation theory

Brain organisation theory is beginning to dominate both neuroscientific and lay understanding of sex and gender, and this idea that our brains embody one sex of the binary is referred to in this thesis as 'brain-sex binary' theory. Increasingly the role of hormones in the development of fetal brain structures is seen as providing a persuasive account of how gender identity develops as a function of neurology.<sup>269</sup> By this account prenatal and neonatal hormone surges produce distinctly different male and female brains.<sup>270</sup> The development of sexually differentiated brain structures in utero has been the subject of research since the mid-20th century.<sup>271</sup> Some strands of this research can be seen as a continuation of historic attempts to find a brain-based

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<sup>269</sup> See, for example, Lee, (n 19).

<sup>270</sup> See, for example, Bao and Swaab, 'Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders', (n 101); Amber N V Ruigrok et al, 'A meta-analysis of sex differences in human brain structure' (2014) 39 *Neuroscience & Biobehavioral Reviews* 34.; Cahill, (n 214); Hines, Melissa. *Brain Gender*. (Oxford University Press, 2004).

<sup>271</sup> CH Phoenix et al, 'Organizing action of prenatally administered testosterone propionate on the tissues mediating mating behaviour in the female guinea pig.' (1959) 65 *Endocrinology* 369.; D F Swaab, 'Sexual Differentiation of the Human Brain: Relevance for Gender Identity, Transsexualism and Sexual Orientation' (2004) 19 *Gynecological Endocrinology* 301.

legitimation of sex/gender stereotyping,<sup>272</sup> as well as a continuation of the search for the marker of true sex.<sup>273</sup>

Disciplines such as phrenology and early neuroscience looked at brain morphology as providing valuable data for contrasting male and female brains to explain gender inequality. The invention of imaging technology gave impetus to the idea that different human traits were located within different sections of the brain. As the technology for imaging living brains became more powerful and sensitive, further studies of brain activity in men and women yielded new opportunities and expanded the focus of enquiry from brain structures<sup>274</sup> to the brain in action.<sup>275</sup> Since the earliest brain imaging has been available, a vast number of studies compare the brains of men and women, as this is a relatively simple and straightforward benchmark. Even studies which are not focused on sex and gender often include male/female comparisons. Many studies have compared homosexual and heterosexual people,<sup>276</sup> and more recently, trans and cisgender people.<sup>277</sup> This latter research represents one strand within the field of brain sex research on the neurological distinctions between men and women, and how they may impact on behaviour, identity and psycho-social development.

Jordan-Young provides a comprehensive discussion of the origins of brain organisation theory beginning with her view that it contains misconceptions about the nature and impact of sex

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<sup>272</sup> Historic efforts to find brain-based evidence of women's intellectual inferiority have been explored by feminist researchers such as Cordelia Fine, (n ); and Gina Rippon, (n 45).

<sup>273</sup> Cordelia Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?' (2013) 6(2) *Neuroethics* 369.

<sup>274</sup> Such as Alicia Garcia-Falgueras and Dick F Swaab, 'A sex difference in the hypothalamic uncinate nucleus: relationship to gender identity' (2008) 131(12) *Brain* 3132.

<sup>275</sup> Gizewski et al, (n 236); H Berglund et al, 'Male-to-Female Transsexuals Show Sex-Atypical Hypothalamus Activation When Smelling Odorous Steroids' (2008) 18(8) *Cerebral Cortex* 1800.

<sup>276</sup> See discussion in Jordan-Young, (n 1) chapter 7

<sup>277</sup> Guillamon, A, et al 'A Review of the Status of Brain Structure Research in Transsexualism' (2016) 45(7) *Archives of Sexual Behavior* 1615.

hormones.<sup>278</sup> As noted in chapter 2, early research on hormones was beset by errors about so-called sex hormones, many of which endure in popular culture today.<sup>279</sup> For example, early researchers assumed that female hormones were produced exclusively in the gonads of women and not in the gonads of men.<sup>280</sup> Before these misapprehensions were finally corrected, a lot of time and energy had been directed to identifying the role of each of the sex hormones in producing sexual differentiation of the bodies and behaviour of animals and humans. Eventually experiments to determine the role of hormones in physiological sex differentiation led to consensus about the steps involved in the process – referred to as the ‘Jost paradigm.’<sup>281</sup> According to this paradigm, testicular hormones drive the male patterning of the reproductive tract system, whereas the female phenotype arises by default. While the Jost paradigm of sex differentiation of physiology was becoming entrenched, research on hormonal effects on behaviour continued though the results were not clear or coherent. An example of early research on behaviour is the extensive research looking for links between hormones and homosexuality, which continues today.<sup>282</sup> While researchers were convinced they would find a hormonal explanation for feminine and masculine behaviour in humans as they had in animals, the evidence was somewhat perplexing. Sometimes male sex hormones would induce masculine behaviour in male animals but not female animals. For example, ‘castrated females seemed to immediately lose interest in sex,’<sup>283</sup> but castrated male horses continued with mounting behaviour. Eventually, researchers believed they had identified the missing puzzle piece: hormones act on neural tissue differently depending on whether the tissue itself is male or female. So, as Jordan-Young explains,

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<sup>278</sup> For example by early researcher Eugen Steinach, as cited in Jordan-Young, (n 1) Ch 2.

<sup>279</sup> See examples discussed in Jordan-Young and Karkazis, *Testosterone: An Unauthorized Biography* (n 147).

<sup>280</sup> See section 2.6.2.2.

<sup>281</sup> Named after embryologist Alfred Jost. Jordan-Young, (n 1), loc 417

<sup>282</sup> Ibid.

<sup>283</sup> Jordan-Young (n 1) loc 447

Rather than looking to the hormonal status of adult animals to explain individual differences in behaviour, scientists needed to begin investigating the factors that make male and female brains in the first place.<sup>284</sup>

By the 1930s, researchers were considering hormones through a different framework – that of brain organisation theory. Fetal hormones impact on the development of brain structures and morphology in utero. The theory is that the brains of males and females are different as a result of differences in hormones secreted prenatally by the gonads of each sex.<sup>285</sup> This impact is hardwired into the brain, producing permanent structural effects.

As fetal hormones produce different soma, neural structure and organisation, this produces “essential” differences between men’s and women’s brains, and these will determine their different capacities and characters and their different places in society.’<sup>286</sup> As Bao and Swaab describe it, ‘During the intrauterine period a testosterone surge masculinizes the fetal brain, whereas the absence of such a surge results in a feminine brain.’<sup>287</sup> Post-natal hormones activate the neural soma to produce masculine or feminine behaviour.

Bentley notes some shifts in the narrative over the last thirty years or so:

Since the 1990s, the view that men, on average, outperform women on spatial cognition has changed to a view that men and women have evolved to specialize in different skills. This has resulted in an idea of “male” and “female” brains, designed to differ in ways that ensure “behavioral complementarity” between the sexes.<sup>288</sup>

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<sup>284</sup> Ibid.

<sup>285</sup> Arthur P Arnold, 'Sex chromosomes and brain gender' (2004) 5(9) *Nature Reviews Neuroscience* 701.

<sup>286</sup> Rippon, (n 45) xii.

<sup>287</sup> Bao and Swaab, 'Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders', (n 101) 214.

<sup>288</sup> Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives', (n 220).

A key feature of this theory is that testosterone, the 'male' hormone, is the active ingredient in creating a male brain. The female brain is a 'default', a result of a passive absence of adrenal surges. It continues to be claimed that female hormones play no role in sex differentiation processes,<sup>289</sup> though there is increasing evidence to the contrary.<sup>290</sup>

Built into the research project of demonstrating the neurological origins of gender differentiation is the premise that sex/gender is a natural binary. As Dussauge and Kaiser explain,

this research is oriented toward *sex differences* and not toward the investigation of what sex or gender *is* or *can be*. Hence, the notion of a binary system of sex/gender is from the very beginning interwoven with what may come later in the results and interpretation of those results.<sup>291</sup>

For example the search for neurological explanations of gender dysphoria is deeply imbricated with neuroscience research looking for confirmation of male and female brains. Much of the research also reflects unquestioned heteronormative values.<sup>292</sup>

In discussing the default premise of binary sex that underpins much of the neurological research, Roy comments that

In many of these studies, the working assumption is firstly, that we need to measure in order to divide people into groups; and secondly, in the particular case of neuroscientific studies on sex and/or gender, that we can and should be able to easily divide the differences produced by our practices of measurement into two, and only two, distinct groups.<sup>293</sup>

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<sup>289</sup> It seems likely that this assumption of passivity of female hormones is yet another example of a gender stereotype operating to direct the research and influence its interpretation. See, for example, Emily Martin, 'The Egg and the Sperm: How Science Has Constructed a Romance Based on Stereotypical Male-Female Roles' (1991) 16(3) *Signs* 485.

<sup>290</sup> Humphrey Hung-Chang Yao, 'The pathway to femaleness: current knowledge on embryonic development of the ovary' (2005) 230(1) *Molecular and Cellular Endocrinology* 87; Dorien Baetens et al, 'Update on the genetics of differences of sex development (DSD)' (2019) 33(3) *Best Practice & Research Clinical Endocrinology & Metabolism* 101271.

<sup>291</sup> Dussauge and Kaiser, (n 263) 125 (original emphasis).

<sup>292</sup> Dussauge and Kaiser, 'Neuroscience and Sex/Gender' (n 220).

<sup>293</sup> Deboleena Roy, 'Neuroethics, Gender and the Response to Difference' (2012) 5(3) *Neuroethics* 217, 226.



Roy argues for a much more flexible understanding of sex differences, which she terms 'radical multiplicity,' that accepts complexity and diversity in a way that does not require division and hierarchy.

Advances in neural imaging provide insight into brain activity. Technologies like functional magnetic resonance imaging (fMRI) and positron emission tomography (PET) track neural activity by tracking blood flow in the brain. Blood flow is an analogue for activity. These processes provide valuable insight into brain activity and processing. But blood flow and activity in the brain is not a direct referent to mental and psychological processes and effects.

Making further inferences about mental processes from differences in neural activity between experimental and control conditions requires making 'reverse inferences'; that is, claims of the form 'Brain Region X showed increased activation therefore Mental State Y was present.' However, mental processes arise from the complex and dynamic interaction of multiple brain regions that themselves comprise a staggering complexity of connections.<sup>294</sup>

Brain activity provides clues but cannot provide direct access to mental processes. Inferring mental processing from an analogue of brain activity is problematic. Not only is it highly speculative, but it also assumes causation from correlation.<sup>295</sup>

A common assumption is that more brain activity equates to more and better mental processing. However, more activity may reflect novelty of a task, and familiarity with a task may generate less activity because the process is more streamlined. As Bluhm explains, 'studies have also shown that brain activity often decreases with task mastery. With practice, tasks require less effort, so brain activity involved in performing these task decreases.'<sup>296</sup> An increase in brain

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<sup>294</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?' (n 273) 378.

<sup>295</sup> Ibid 379.

<sup>296</sup> Robyn Bluhm, 'Self-Fulfilling Prophecies: The Influence of Gender Stereotypes on Functional Neuroimaging Research on Emotion' (2013) 28(4) *Hypatia* 870 ('Self-Fulfilling Prophecies'), 875.

activity therefore may not reflect that more is happening in terms of function. Greater competence may produce less brain activity.

Another possibility is that sex differences in brain activity do not necessarily reflect profound differences in mental processing. As Fine describes it, different activity may 'merely reflect a different neural means to the same behavioral ends'<sup>297</sup> An example is offered by McCarthy et al who note 'the different strategies used by males and females to solve the same spatial learning problem. Males and females can learn the task equally well, but the external constraints imposed on the task affects the strategy used and can create a sex difference in performance, but not ability.'<sup>298</sup>

Furthermore, brain differences along sex lines may not reflect difference in behaviour, but contribute to reducing such differences. As de Vries explains, 'We rarely consider the possibility that sex differences in brain structure may also prevent sex differences in overt functions and behavior, by compensating for sex differences in physiological conditions.'<sup>299</sup> De Vries gives an example from animal research. Prairie voles raise pups in life-bonded pairs whereby both males and females actively parent their pups to the same extent, aside from breastfeeding. Parental behaviour in female voles is triggered by hormone changes during pregnancy. In male voles, parental behaviour is necessarily triggered in a different way. De Vries explains that male parental behaviour depends on 'activation of arginine vaso-pressin (AVP) receptors in the lateral septum. Interestingly, there is an enormous sex difference in the AVP innervation in voles. Female voles have hardly any AVP fibers in their septum, whereas males have a dense AVP fiber network.' This difference in brain morphology and activity works to *reduce*

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<sup>297</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 266), 379.

<sup>298</sup> Margaret M McCarthy et al, 'Sex Differences in the Brain: The Not So Inconvenient Truth' (2012) 32(7) *The Journal of Neuroscience* 2241, 2242.

<sup>299</sup> Geert J De Vries, 'Minireview: Sex Differences in Adult and Developing Brains: Compensation, Compensation, Compensation' (2004) 145(3) *Endocrinology* 1063, 1063.

differences in behaviour between the sexes. Although this example comes from animal research, similar processes occur in human brain development.<sup>300</sup>

In many ways the leap from observation of activity to interpretation about gender behaviour is highly speculative and reductive. A prevalent assumption of neuroscience researchers is that anatomical differences represent functional differences.<sup>301</sup> Research that presumes a linear flow between structure and function ignores a wealth of possibilities, including a reversal of flow, a flow between a single structure and a multiplicity of function, a flow between multiple structures and a single function, or a connection between multiple structures and multiple functions.

Because of the conception that biology produces universal, static, fixed traits, a central premise of brain organisation theory is that the key differences in the brains of men and women are congenital and hard-wired. The term 'hard-wired' has long been used to describe neurological structures. It is a term borrowed from engineering and has multiple implications and meanings – it is 'heavily encrusted with misconception and misdirection'<sup>302</sup> – which invoke implicit metaphors of permanence and rigidity. This terminology and many of the metaphors used in relation to brain circuitry and processing (such as the word 'circuitry' itself) ignore the revolutionary discovery of brain plasticity discussed in section 3.3.2. These inferences also ignore a significant body of evidence from the field of social neuroscience that shows that many neural processes are culturally dependent rather than reflecting universal conditions that are constant across time and space.<sup>303</sup>

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<sup>300</sup> Ibid. 1064

<sup>301</sup> Ibid.

<sup>302</sup> Churchland P S, *Brain-Wise: Studies in Neurophilosophy* (MIT Press, 2002) quoted in Grossi, (n 220) 1048.

<sup>303</sup> See, for example, Shihui Han and Georg Northoff, 'Culture-sensitive neural substrates of human cognition: a transcultural neuroimaging approach' (2008) 9(8) *Nature Reviews Neuroscience* 646; Cacioppo, John T 'Social Neuroscience: Understanding the Pieces Fosters Understanding the Whole and Vice Versa.' (2002) 57(11) *The*

Support for brain-sex binary theories is widespread, and even researchers who are not explicitly committed to these theories endorse them indirectly. Similarly, judicial decisions indirectly endorse brain-sex theories, even where such theories are not explicitly mentioned.<sup>304</sup> As Dussauge and Kaiser note, 'When referred to in interpretation/discussion sections of medical publications, the brain organization theory is treated as accepted knowledge – whereas it is elsewhere disputed on solid scientific grounds.'<sup>305</sup> This indirect support arises in research on gender identity in intersex people, despite the almost ubiquitous conclusion that a more reliable indicator of gender identity development for intersex people is sex of rearing, not fetal androgen exposure.<sup>306</sup> This issue is taken up again in chapter 4, but it is revealing that even where data directly contradicts a theory that prenatal hormone exposure organises brains as fundamentally male or female, the theory is still mentioned with approval and explicitly or implicitly endorsed.<sup>307</sup>

Brain organisation theory at its most linear and simplistic is gradually yielding to a more nuanced and complex model in which:

sex effects on the brain are exerted in both females and males throughout life by several steroid hormones (including testosterone, estradiol, and progesterone) as well as by genetic and environmental factors. These effects are exerted via multiple partly independent mechanisms and may vary according to internal and external factors.<sup>308</sup>

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*American Psychologist* 819; Yiyuan Tang, Wutian Zhang, Kewei Chen, Shigang Feng, Ye Ji, Junxian Shen, Eric M Reiman, and Yijun Liu 'Arithmetic Processing in the Brain Shaped by Cultures.' (2006) 103(28) *Proceedings of the National Academy of Sciences* 10775.

<sup>304</sup> For example, see *Re Kelvin* (n 14) and discussion at section 6.4 below.

<sup>305</sup> Dussauge and Kaiser, (n 263) 138.

<sup>306</sup> Nina Callens et al, 'Recalled and current gender role behavior, gender identity and sexual orientation in adults with Disorders/Differences of Sex Development' (2016) 86 *Hormones and Behavior* 8.

<sup>307</sup> A D Fisher et al, 'Gender identity, gender assignment and reassignment in individuals with disorders of sex development: a major of dilemma' (2016) 39(11) *Journal of Endocrinological Investigation* 1207.

<sup>308</sup> Joel, Garcia-Falgueras and Swaab, (n 220), 1.

While it is pleasing to see brain organisation theorists such as Swaab, Garcia-Falgueras and Meyer-Bahlburg<sup>309</sup> endorse more complex models of sex and gender development, a crude and essentialist version of brain organisation theory continues to be adopted and disseminated broadly within neuroscience, psychology and other discourses, including law. For example, in *Re Kevin*,<sup>310</sup> a 2001 Family Court case concerning the legal status of a post-operative trans man seeking to marry in his reassigned gender, Chisholm J claimed that ‘medical experts think it likely that a transsexual’s sense of self derives from a (biological) characteristic of the brain.’<sup>311</sup> The research seems to promise special insight into the development of gender dysphoria, and to provide a biological explanation for gender identity which develops in opposition to the somatic sex of the body. As yet, brain sex research does not promise any ‘diagnostic’ insight because it cannot be used to predict or test claims about ‘gender dysphoria.’ Yet it seems to offer a *rhetorical* resource for claims about the legitimacy of surgical interventions to alter sex characteristics of the body to be more consistent with the person’s identified gender. The flow on and significant impact of brain-sex binary research on law is taken up in chapters 6 and 7.

### 3.3 Sex Differences in the Brain

#### 3.3.1 Introduction

Sex differences in the brain reported within the neuroscientific literature include chemical, physiological and morphological differences. The issue of how sexually dimorphic humans are is much more than an abstract theoretical question. As Blackless et al note, ‘With respect to sex chromosome composition, gonadal structure, hormone levels, and the structure of the internal genital duct system and external genitalia... we generally consider homo sapiens to be absolutely dimorphic.’<sup>312</sup> The consequence is that, despite knowledge that humans do not meet a platonic ideal of absolute somatic dimorphism, there is a normative assumption that any

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<sup>309</sup> See, for example, Liao et al, (n 264).

<sup>310</sup> *In Re Kevin* (n 4).

<sup>311</sup> *Ibid.*

<sup>312</sup> Melanie Blackless et al, 'How sexually dimorphic are we? Review and synthesis' (2000) 12(2) *American Journal of Human Biology* 151, 151.

variation from the model of one of two correct pathways of sex development is inherently pathological and 'unnatural.' Consequently, legal regulation of sex and gender is compelled to re-naturalise and reinforce sex categories by endorsing medical interventions on intersex children whose embodiment is seen as urgently in need of 'unifying transformation.'

The significant body of literature critiquing neuroscience investigation of sex differences in the brain is not aimed at the direction of research examining neural sex differences. Research must continue to explore neurological sex differences. As Fine notes,

[O]ne rationale for making sex comparisons in neuroscientific research is to redress an historical tendency for biological research to be conducted mostly on males, with findings and implications for pathology then extrapolated, perhaps incorrectly, to females.<sup>313</sup>

Feminist critiques have consistently supported the development of better knowledge about neural sex differences. As Eliot argues, 'Despite the complexity, neuroscientists can and must persevere in studying sex differences, especially considering males' and females' different vulnerabilities to many developmental and psychiatric disorders.'<sup>314</sup> This makes it vital for legitimate criticism to be written and published, in the best spirit of scientific progress. Neurofeminist writing provides deep insight into ways in which exploration of neurological sex differences can be made accurate and valuable.<sup>315</sup>

In this section of the chapter, I summarise some of the problems that have been identified in relation to this body of literature and research. In doing so, I hope to draw parallels to historical situations referred to in chapter 2 where biomedical research progress has been undermined

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<sup>313</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273) 371.

<sup>314</sup> Eliot, (n 220) 898.

<sup>315</sup> For example, Jordan-Young and Rumiati, (n 17); Gina Rippon et al, 'Recommendations for sex/gender neuroimaging research: key principles and implications for research design, analysis, and interpretation' (2014) 8 *Frontiers in Human Neuroscience* 650; Cordelia Fine et al, 'Reaction to "Equal ≠ The Same: Sex Differences in the Human Brain"' (2014) *Cerebrum* <<https://www.dana.org/article/reaction-to-equal-%E2%89%A0-the-same-sex-differences-in-the-human-brain/>>;; Joel, Garcia-Falgueras and Swaab, (n 308).

because researchers approach questions about sex and gender with pre-conceptions that distort study design and outcomes. In turn, the narratives by which research outcomes are communicated and disseminated more broadly tend to reinforce and replicate falsehoods and established stereotypes. In a meta-analysis of research on neural sex differences revealed using fMRI,

the research was found to support the influence of false-positive claims of sex differences in the brain, to enable the proliferation of untested, stereotype-consistent functional interpretations, and to pay insufficient attention to the potential plasticity of sex differences in both brain and mind.<sup>316</sup>

As Eliot argues, ‘...we must also be careful about communicating the true magnitude and deep intricacy of brain sexual differentiation to stem the widespread and potentially harmful misuse of research in this area.’<sup>317</sup>

In this section I outline some significant weaknesses and flaws that suggest that neuroscience research exploring sex differences in the brain, and brain organisation theory in particular, has limitations which merit close consideration of the evidence and conclusions that emerge. The critique provides important context for the claim that brain organisation, as the latest candidate for true sex determinant, replicates some of the weaknesses and flaws that have hindered earlier research on sex differentiation processes. It also provides context for the legal analysis in second part of the thesis, where I argue, *inter alia*, that dissemination of brain-sex binary theories in popular culture has given rise to the ‘born this way’ trope which is a powerful conceptualisation of gender identity as a biological phenomenon. This in turn has been influential in easing the regulatory requirements for approving treatment of minors with gender dysphoria. The consequences of this development in legal attitudes are explored at greater length in chapter 6.

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<sup>316</sup> Fine, ‘Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?’, (n 273) 369.

<sup>317</sup> Eliot, (n 314) 296.

### 3.3.2 Brain plasticity

A key factor which brings into question the conclusion that men and women have different brains due to pre-natal hormone exposure, thus producing hard-wired, innate differences, is the phenomenon of brain plasticity. Investigations of neuroplasticity have been undertaken from as early as the 1960s. However, for a long time the prevailing popular and scientific view was that the brain did not change and was not capable of significant change in its structures and functions.<sup>318</sup> A deterministic understanding of brain biology is tied to the conception that biology is static.

However more recent research has shown both structural and functional neuroplasticity in humans.<sup>319</sup>

The concept of brain plasticity points out that brain structures and brain functions are not in any shape or form determined by evolution or remain unchanged during a life span. At birth, the brain is not at all branded or defined, and this network of nerve cells, neuronal fibers and their synapses is not 'completely formed' by genetic information.<sup>320</sup>

In the process of neural development, 'neuronal networks 'learn' repetitive patterns of information and embody them structurally and functionally' – an example of an interactive process which defies a nature/culture dichotomy.<sup>321</sup> The brain is physical matter which, in its entanglement with the world, is itself changed. As Kaiser explains, 'we know that the brain can increase its neuronal response strength, can augment its synaptic density, and can expand its representation across cortical areas throughout life – all of which are subsumed in the concept

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<sup>318</sup> Norman Doidge, *The Brain That Changes Itself* (Scribe Publications, 2007).

<sup>319</sup> Karl Zilles, 'Neuronal plasticity as an adaptive property of the central nervous system' (1992) 174(5) *Annals of Anatomy - Anatomischer Anzeiger* 383. See also Arne May, 'Experience-dependent structural plasticity in the adult human brain' (2011) 15(10) *Trends in Cognitive Sciences* 475; Fine et al, (n 266).

<sup>320</sup> Schmitz and Höppner, 'Neurofeminism and feminist neurosciences: a critical review of contemporary brain research', (n 74) 4.

<sup>321</sup> Ibid.



of neuronal plasticity.<sup>322</sup> Even the brain's endocrinology is shaped and changed by experience.<sup>323</sup>

A series of famous experiments by Eleanor Maguire and her team tracking brain changes in London taxicab drivers who were acquiring 'the Knowledge' provides fascinating evidence of neuroplasticity.<sup>324</sup> An example which bears more relevantly on gender differences relates to evidence of sex differences in spatial cognition. Spatial cognition occupies a special significance in brain organisation research. As Bentley argues 'differences in spatial ability are commonly invoked as the most robust and binary sex differences, and also commonly associated with innate, fixed neural substrates.'<sup>325</sup> A 2007 study by Feng et al demonstrates that learning can eliminate gender differences in spatial tasks. The study participants engaged in 10 hours of action-video-game training. Spatial attention and higher-level spatial abilities were assessed before and after the training. Prior gender differences were virtually eliminated in some tasks and reduced in others.<sup>326</sup> These results have been replicated in other studies on the effects of training in improving spatial cognitive abilities.<sup>327</sup>

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<sup>322</sup> Anelis Kaiser, 'Re-Conceptualizing "Sex" and "Gender" in the Human Brain' (2012) 220(2) *Zeitschrift für Psychologie* 130, 131.

<sup>323</sup> Sari M van Anders and Neil V Watson, 'Social neuroendocrinology' (2006) 17(2) *Human Nature* 212.

<sup>324</sup> E A Maguire et al, 'Navigation-related structural change in the hippocampi of taxi drivers' (2000) 97(8) *Proceedings of the National Academy of Sciences of the United States of America* 4398; E A Maguire, R S Frackowiak and C D Frith, 'Recalling routes around London: activation of the right hippocampus in taxi drivers' (1997) 17(18) *The Journal of Neuroscience : the Official Journal of the Society for Neuroscience* 7103; Katherine Woollett and Eleanor A Maguire, 'Acquiring "the Knowledge" of London's layout drives structural brain changes' (2011) 21(24) *Current Biology* 2109.

<sup>325</sup> Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives', (n 254).

<sup>326</sup> Feng Jing, Spence Ian and Pratt Jay, 'Playing an Action Video Game Reduces Gender Differences in Spatial Cognition' (2007) 18(10) *Psychological Science* 850.

<sup>327</sup> For example, Tzuriel David and Egozi Gila, 'Gender Differences in Spatial Ability of Young Children: The Effects of Training and Processing Strategies' (2010) 81(5) *Child Development* 1417.

Attributing existing differences to fundamental hard-wired differences in brains makes little sense given the brain's dynamic plasticity. However, the assertion of men's inherent superiority in spatial tasks continues to dominate claims of neurological sex differences. Bentley suggests that 'research is primarily motivated by confirming that sex is a fundamental division that gives rise to precultural and pre-experiential differences in spatial skills.'<sup>328</sup> Furthermore, the conclusion that men perform better on spatial tasks is taken as proven and used as a foundational fact in further brain organisation research.<sup>329</sup>

In 1999 Breedlove et al reviewed mechanisms underlying sexual differentiation by focussing on the spinal nucleus of the bulbocavernosus (SNB). This is one of the most studied models of sexual differentiation of the vertebrate nervous system. They concluded that

early androgen can permanently masculinize the SNB system but, surprisingly, these early influences may depend to some extent on social mediating factors. Furthermore, in adulthood, androgen continues to affect the SNB system in diverse ways, acting on several different loci, indicating a life-long plasticity in even this simple system. Finally, there is evidence that adult androgens interact with social experience in order to affect the SNB system.<sup>330</sup>

Thus early research indicated that even if androgens may organise the brain along masculine lines, the process is inherently interactive and demonstrates neural plasticity.

Neuroscience research relies on taking 'snapshots' of the brain and drawing conclusions from the data acquired. The assumption is generally that the identified sex differences are innate and

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<sup>328</sup> Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives', (n 325) 2.

<sup>329</sup> David A Puts et al, 'Spatial Ability and Prenatal Androgens: Meta-Analyses of Congenital Adrenal Hyperplasia and Digit Ratio (2D:4D) Studies' (2008) 37(1) *Archives of Sexual Behavior* 100.

<sup>330</sup> S Marc Breedlove, Bradley M Cooke and Cynthia L Jordan, 'The Orthodox view of brain sexual differentiation' (1999) 54(1) *Brain, Behavior and Evolution* 8, 8.

unchanging features that express the participant's sex rather than their experiences.<sup>331</sup> Thus research which relies on the snapshot approach assumes that the images provide an accurate picture of a stable sexed brain, rather than representations of a moment of brain activity constructed through a complex sociocultural process.<sup>332</sup> As Fine notes,

... a single 'snap-shot' comparison of male/female brain activity is uninformative as to the extent to which any neurological sex differences (and any concomitant behavioral differences) are due to the effects of experience on brain development and function, versus the manifestation of fixed, stable and universal male/female neural signatures<sup>333</sup>

A significant consequence of research which relies on brain 'snapshots' to identify differences in natural abilities, capacities and interests between men and women is the impact that such a narrative has on the brain itself. The dynamic plasticity of the brain means that statements about, for example, the cognitive abilities of a particular cohort become internalised by individuals within that cohort.<sup>334</sup> A well-known phenomena is that 'priming' a person with knowledge of how they are expected to perform at a particular task can have a profound impact on how they do perform. If you are repeatedly told that people like you generally do well at a skill or task, your performance will improve. Conversely, if you are aware that people like you generally perform poorly, that will have a negative impact when you perform that task.<sup>335</sup> As Schmitz and Hoppner explain, '[t]he overtaking of gendered stereotypes into self-schemata impacts cognitive performance, behavior, and even neuronal processes.'<sup>336</sup> The negative effect of a negative stereotype is commonly referred to as 'stereotype threat.' As the

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<sup>331</sup> Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives', (n 220).

<sup>332</sup> Ibid.

<sup>333</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273) 397.

<sup>334</sup> Fine, (n 220).

<sup>335</sup> See, for example, Rippon, (n 220).

<sup>336</sup> Schmitz and Höppner, 'Neurofeminism and feminist neurosciences: a critical review of contemporary brain research', (n 74) 5.

next round of research proceeds, the impact on cognitive performance is reflected in the research again, reinforcing the gender stereotypes.<sup>337</sup>

Brain plasticity means that many studies of the human brain, particularly post-mortem studies which were common prior to the development of more sophisticated brain imaging technology, show sex differences in brain morphology may reflect differences in the lives and experiences of those people, rather than any congenital hard-wired differences. As Eliot notes, essentialists sometimes 'neglect... to mention the lifetime of gender-differentiated experience that may shape male-female differences in brain function or microstructure.'<sup>338</sup>

### 3.3.3 Inconsistencies and false-positive findings

A significant body of literature has produced and/or identified evidence that contradicts outcomes reported in support of brain organisation theory studies.<sup>339</sup> Despite the fact that 'feminist neuroscientists have uncovered inconsistent findings concerning sex differences and elaborated similarities between or variations within the gender groups, not only on the level of behavior and performance but also concerning their apparently biological sources',<sup>340</sup> evidence from weak and/or flawed research continues to circulate and influence both scientific and

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<sup>337</sup> Fine, 'Explaining, or Sustaining, the Status Quo? The Potentially Self-Fulfilling Effects of 'Hardwired' Accounts of Sex Differences', (n 220).

<sup>338</sup> Eliot, (n 314) 897.

<sup>339</sup> For example, J A Frost et al, 'Language processing is strongly left lateralized in both sexes: Evidence from functional MRI' (1999) 122(2) *Brain* 199; Richard J Blanch et al, 'Are there gender-specific neural substrates of route learning from different perspectives?' (2004) 14(11) *Cerebral Cortex* 1207; Iris E C Sommer et al, 'Do women really have more bilateral language representation than men? A meta-analysis of functional imaging studies' (2004) 127(Pt 8) *Brain* 1845; Kaiser, 'Re-Conceptualizing "Sex" and "Gender" in the Human Brain', (n 17); Susan C Levine et al, 'Sex differences in spatial cognition: advancing the conversation: Sex differences in spatial cognition' (2016) 7(2) *Cognitive science* 127.

<sup>340</sup> Schmitz and Höppner, 'Neurofeminism and feminist neurosciences: a critical review of contemporary brain research', (n 74) 3.

popular perceptions of the gendered brain.<sup>341</sup> It tends to be uncritically accepted in legal discourse to provide scientific support for legal regulation of sex and gender categories, as I will show in chapter 6.

Furthermore, many prominent studies which are cited in support of brain organisation theory overemphasize homogeneity within each category. In discussing research on spatial cognition, Bentley et al note that

In general, the individual variability in spatial and environmental strategies is often higher than differences between the female and male subjects. In other words, there are more differences among men or among women in skill and strategies with spatial navigation than there are differences between women and men.<sup>342</sup>

As Jordan-Young explains, 'In epidemiology, where quasi-experimental or observational studies are the norm, it is well-recognized that causal associations are only established when evidence from substantially different research designs converges.'<sup>343</sup> Jordan-Young provides a systematic and meticulous critique of the key research in support of brain organisation theory and finds that the evidence fails to converge.<sup>344</sup> For example, she interrogates the research linking homosexuality to neurology. The search for the 'gay brain' is one of the most prolific areas of study within brain organisation research. However, Jordan-Young has noted a range of problems with the body of research, including a lack of consistency in defining homosexuality itself. Not only are researchers defining homosexuality inconsistently, they exhibit a lack of interest in how homosexuality is understood. If experiments and studies do not adopt a consistent definition of homosexuality, the research designs fail to converge and the results

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<sup>341</sup> Bentley et al, 'Improving Practices for Investigating Spatial 'Stuff': Part 2: Consideration from Critical NeuroGenderings Perspectives' (n 220) 309.

<sup>342</sup> Ibid.

<sup>343</sup> Jordan-Young and Rumiati, (n 17) 309.

<sup>344</sup> Jordan-Young, (n 1).

across these studies cannot legitimately be compared.<sup>345</sup> Furthermore, different studies adopt different comparisons. Some compare the brains of heterosexual women and homosexual men (looking for similarities based on attraction to men). Others compare the brains of homosexual men and lesbian women (looking for similarities based on same-sex orientation). The axis around which the research is organised is different, which again makes the studies incomparable.<sup>346</sup> What looks like a solid body of evidence is actually a series of discrete studies that examine different theories. This is one example of many inconsistencies and flaws that Jordan-Young identifies in the body of literature that props up brain organisation theory.

Another assumption implicit in brain organisation theory is that male and female are polar opposites. As Jordan-Young describes it,

...masculinity and femininity were thought of as the extreme ends of a single continuum, and an individual's sex or gender "profile" was a trade-off between the two: the presence of feminine traits automatically made someone less masculine, and vice versa.<sup>347</sup>

This assumption implies that masculine traits are incommensurable with being female and feminine traits make a man less masculine. Once a trait is coded as masculine or feminine, that characterisation is then used as a criteria to test masculinity and femininity. A significant inconsistency Jordan-Young identified is found in studies which focus on masculine and feminine sexual behaviour. Masturbation - like many other sexual behaviours including genital focus, arousal by narrative (rather than touch), multiple partners, multiple sex positions, precocious or timely sexual initiation, high libido and frequent sexual activity - in the early studies were characterised as exclusively masculine and non-feminine. Social and cultural shifts around women's sexuality led to significant changes in how 'normal' women behave, or at least

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<sup>345</sup> Ibid chapter 7.

<sup>346</sup> Ibid.

<sup>347</sup> Ibid Location 1753.

how they are normatively assumed to behave.<sup>348</sup> Masturbation (as one example of behaviour that was male-coded in early studies) came to be viewed, not as exclusively masculine behaviour, incommensurate with feminine sexuality,<sup>349</sup> but as reflecting healthy female sexuality.<sup>350</sup> However, this major shift is not acknowledged within brain sex research. Instead of re-examining earlier research criteria relating to feminine and masculine sexual behaviour, these shifts have been ignored by brain sex researchers:

... most brain organization researchers have used the common term feminine sexuality through more than four decades as though it is absolutely self-evident and unproblematic. But the ground has been shifting under their feet.<sup>351</sup>

A body of literature from the 1950s to present day appears to be coherent and internally consistent, but it actually evidences opposite and contradictory conclusions as a result of this hidden change of meaning and signification.<sup>352</sup> These weaknesses in the body of research have never been acknowledged or dealt with by researchers in the field.

This means that studies which draw inconsistent and even contradictory conclusions are presented as consistent and coherent.

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<sup>348</sup> There is a grey area between the sexual behaviour of 'normal' women and how researchers have coded 'normal' female sexual behaviour. In other words, there is a gap of unknown proportions between what researchers report as normal sexual behaviour and what women actually do. Even though many studies of brain organisation research were conducted contemporaneously with valuable empirical research such as the Kinsey report, (Alfred C Kinsey et al, *Sexual Behavior in the Human Female* (Indiana University Press, 1981). Chapter 5) early brain organisation studies present a highly normative and uninformed vision of female sexuality. See, for example, A A Ehrhardt, K Evers and J Money, 'Influence of androgen and some aspects of sexually dimorphic behavior in women with the late-treated adrenogenital syndrome' (1968) 123(3) *Johns Hopkins Medical Journal* 115.

<sup>349</sup> For example, John Money and Charles Ogunro, 'Behavioral sexology: Ten cases of genetic male intersexuality with impaired prenatal and pubertal androgenization' (1974) 3(3) *Archives of Sexual Behavior* 181.

<sup>350</sup> H F Meyer-Bahlburg et al, 'Sexual activity level and sexual functioning in women prenatally exposed to diethylstilbestrol' (1985) 47(6) *Psychosomatic Medicine* 497.

<sup>351</sup> Jordan-Young, (n 1) 1676.

<sup>352</sup> Jordan-Young, (n 1) chapter 6

because scientists have not noticed the changes and confronted them directly, they have both reinforced the notion that "masculine" and "feminine" sexuality are universal, timeless constructs and created the illusion of a seamless line of evidence supporting human sexuality as hardwired by hormones.<sup>353</sup>

Not only has the conceptualisation of female sexuality shifted between the early research (1960s to 1970s) and later studies, but the notion of female sexuality has undergone massive changes across longer time periods. The association of women with chaste, muted, passive sexual response and men with high libido and ungovernable sexual desires and behaviour is a direct reversal of historic conceptions which saw men as controlled and cerebral, whereas women were licentious and carnal in behaviour and appetite.<sup>354</sup>

### 3.3.4 The resilience of research that confirms gender stereotypes

From the beginning of the era of direct research on the living brain, made possible by technological developments in brain imaging, there has been a strong tendency to rely on pre-existing 'theories' which support the patriarchal status quo. In other words, much of the research is driven by the quest to demonstrate the assumed inferiority of women's brains and is tainted by uncritical reliance on gender stereotypes as providing 'reliable' data around which research can be designed and structured. Much of the research begins with an assumption that gender stereotypes reflect robust and proven differences between men and women. For example, a conviction that women are more emotional than men is the starting point for some research design.<sup>355</sup>

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<sup>353</sup> Jordan-Young, (n 1) loc 2062.

<sup>354</sup> See, for example, Hera Cook, *The long sexual revolution : English Women, Sex, and Contraception, 1800-1975* (Oxford University Press, 2005); Laqueur, (n 48).

<sup>355</sup> Bluhm, 'New Research, Old Problems' (n 220).



A large number of studies code various behaviours, interests, aptitudes and characteristics as essentially masculine or feminine.<sup>356</sup> This assumes that the masculine or feminine nature of these traits is universal and unchanging. The foundation on which traits are so categorised varies. Often the process is blatantly sexist, uncritically adopting prevalent gender stereotypes of, for example, male rationality and female emotionality. For example, in his thesis about the 'extreme male brain' Baron-Cohen argues that that people with autism express traits which he characterises as essentially masculine, such as systematising and pattern recognition, in contrast to feminine traits such as empathy and social intelligence.<sup>357</sup> Other times, the process is recursive. For example, an early MRI study by Shaywitz, referred to below, reported that brain activity of men is lateralised when performing a specific language task, compared to women whose brain activity was dispersed throughout both brain hemispheres. That outcome, widely reported, was interpreted to reflect masculine and feminine characteristics that men are more single-minded and women are better at multi-tasking. This interpretation has been so widely disseminated and endorsed that it has become another trite but resilient stereotype around which further research can be designed. For example, lateralisation of brain activity is explicitly coded as a masculine trait in research on trans people.<sup>358</sup>

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<sup>356</sup> For example, Sheri A Berenbaum, 'Effects of Early Androgens on Sex-Typed Activities and Interests in Adolescents with Congenital Adrenal Hyperplasia' (1999) 35(1) *Hormones and Behavior* 102.; Hines, Brook and Conway, (n 220) Bluhm, 'New Research, Old Problems' (n 220) 355; Celina C C Cohen-Bendahan, Cornelië van de Beek and Sheri A Berenbaum, 'Prenatal sex hormone effects on child and adult sex-typed behavior: methods and findings' (2005) 29(2) *Neuroscience & Biobehavioral Reviews* 353; Aruna M D Saraswat, Jamie D B A B S Weinand and Joshua D M D Safer, 'Evidence Supporting the Biologic Nature Of Gender Identity' (2015) 21(2) *Endocrine Practice* 199; Baron-Cohen, Simon. *The Essential Difference : The Truth about the Male and Female Brain*. (Oxford Perseus, 2003).

<sup>357</sup> Baron-Cohen S, Wheelwright S 'The empathy quotient: an investigation of adults with Asperger syndrome or high functioning autism, and normal sex differences' (2004) 34(2) *Journal of Autism and Developmental Disorders* 163-75.

<sup>358</sup> Peggy T Cohen-Kettenis et al, 'Cognitive Ability and Cerebral Lateralisation in Transsexuals' (1998) 23(6) *Psychoneuroendocrinology* 631.

As noted in chapter 2, where research questions are approached with a firmly held belief in a particular model of sex differences, this can stymie, distort and weaken the credibility of the research outcomes. It is nothing new for researchers to pursue biological confirmation of gender stereotypes.<sup>359</sup> This has contaminated much of the research and studies which are deeply entangled with sex-based stereotypes and assumptions continue to be cited as evidence of the extent, meaning and significance of neurological sex differences. The resilience of research outcomes which sustain sexist stereotypes is astonishing and is referred to by Rippon as the 'Whac-a-Mole' syndrome.<sup>360</sup> As quickly as one flawed study is smacked down, another one rises nearby.

Rippon and Fine cite an example whereby a single research study with serious methodological flaws, found to be irreproducible, continues to be cited and relied on and repeated in secondary literature and media for literally decades after its problems were exposed. In 1995 psychologists Sally and Bennett Shaywitz carried out one of the first fMRI studies looking at language processing in the brain.<sup>361</sup> The results, which were widely seized upon and circulated, showed that men use only one brain hemisphere when processing language, whereas women use both hemispheres. The study had a cohort of only 38 participants, half male and half female. What the researchers failed to discuss is that almost half of the female participants did not show diffuse brain activity, but actually showed lateralised brain activity. Furthermore Shaywitz et al tested on three language processing tasks, but their article reported the results of only one task. Following publication, this research paper has been cited more than 1600 times, including more than 10 citations in 2019. An image from the paper 'has become one of those popular stock shots that pops up in all sorts of contexts.'<sup>362</sup> All this despite the trenchant

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<sup>359</sup> Bluhm, 'New Research, Old Problems' (n 355).

<sup>360</sup> Rippon, (n 45).

<sup>361</sup> A Shaywitz Bennett et al, 'Sex differences in the functional organization of the brain for language' (1995) 373(6515) *Nature* 607.

<sup>362</sup> Rippon, (n 45) 95.

and persuasive criticisms of the research, including what Rippon describes as a ‘filleting’ by Cordelia Fine.<sup>363</sup> Despite attempts to replicate the study’s findings, none have been successful.<sup>364</sup> Research contradicting the outcomes of the initial study has been published in meta-analyses.<sup>365</sup> However, Fine studied 75 citations of the Shaywitz article from 2009-2010 and of those 75 citations, only 3 explicitly commented on the the failure to report on all language tasks. 46 of the 75 failed to identify the contradictory studies and meta-analyses subsequently published. Only 12 of the 75 citations provided an accurate and complete reporting of the research outcomes.<sup>366</sup> The myth of language lateralisation based on this flawed study from 25 years ago endures unabated in the literature. Not only does this brain factoid continue to circulate, it has become another foundation difference between men and women that is used as a benchmark in other brain organisation research.

Another issue that arises is the way in which neuroscientific research outcomes can be distorted and reinvigorated in other discourses. In 1982, a small (9 male and 5 female) post-mortem study published in *Science* by De Lacosta-Utamsing and Holloway reported that the corpus callosum in females is slightly larger than in males.<sup>367</sup> The results were reported in *Time* Magazine, *Newsweek* and other media. Despite the fact that the results have been thoroughly debunked, as shown in a meta-analysis of 49 different studies which collectively failed to show any significant sex difference in the size of corpus callosum, the ‘factoid’ continues to be

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<sup>363</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273 Cited in Rippon, (n 273) 95.

<sup>364</sup> Fine identifies five such studies: Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273) 379.

<sup>365</sup> Sommer et al, (n 339).

<sup>366</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273) 378.

<sup>367</sup> C DeLacoste-Utamsing and Ralph Holloway, 'Sexual Dimorphism in the Human Corpus Callosum' (1982) 216 *Science* 1431.

asserted by ‘sex difference entrepreneurs’ ‘often as an explanation for females’ mythically superior “multitasking” abilities.’<sup>368</sup>

Eliot provides yet another example relating to the dissemination of research on brain development in children.<sup>369</sup> This research was used by physician Leonard Sax to promote single-sex education policies. Sax claimed that a large neuroscience study from Virginia Tech had shown that the parts of the brain responsible for language and motor skills developed four years earlier in girls than it did in boys, and ‘the areas of the brain involved in geometry and spatial relations mature about four years earlier in boys than in girls.’<sup>370</sup> But, as Eliot explains, the Virginia Tech study did not show any such thing. Instead, it showed ‘a spiraling pattern of cortical maturation thought to reflect multiple waves of synaptic pruning. The study did reveal a difference between boys and girls, but it was a matter of cyclic phase, not a years-long developmental delay in either sex.’<sup>371</sup> However, *Time* Magazine showcased Sax’ theories in a 2005 cover story, which reported his conclusion verbatim.<sup>372</sup>

Eliot, Rippon and others are able to point to numerous other studies which, because they appeal to prevalent pre-existing beliefs, usually sexist stereotypes, about men and women, have enormous resilience and resistance to challenge. Such stereotypes, prevalent also in legal doctrine and precedent, have an immediate appeal in the development of law directed to regulating legal categories in the face of contestation over the definitions of male and female.

### 3.3.5 Research on animals

Many studies within the brain organisation canon are of animal behaviour. These studies often form a foundation or background on which human studies are based. Research on animals is important and valid in a range of contexts, including neuroscientific research. However, deriving evidence about human behaviour and motivations from animal research is fraught

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<sup>368</sup> Eliot, (n 314) 896.

<sup>369</sup> Eliot, (n 314) 895.

<sup>370</sup> Quoted in *ibid*.

<sup>371</sup> *Ibid* 314.

<sup>372</sup> Cited in *ibid*.

with problems. Drawing on animal behaviour to make inferences about human behaviour has obvious risks. Drawing on human behaviour to make inferences about animal behaviour is equally perilous. Where parallels are drawn between animal and human behaviour, the source and inferences should be clearly spelt out.

However, in neuroscience research on brain sex, animal studies are often cited without clarification that they are based on animal behaviour, and often are cited as strong and robust evidence of various sex differences based on, for example, hormones. An example is provided by Fine when she describes a study of vervets looking at the impact of hormone exposure on masculinisation and feminisation of behaviour based on which gender-related toys the animals preferred to play with. In this study, a ball and toy car were categorised as 'male typical' whereas a toy pot and a doll were categorised as 'female typical'.<sup>373</sup> Fine and others note the absurdity of identifying a pot or saucepan as female typical in the absence of any culture of cooking or cooking-related gender roles.<sup>374</sup> Similarly, there is no justification for why a ball was identified as a masculine toy. Instead, some scientists simply rely on threadbare and dusty gender stereotypes to differentiate male and female preferences.

Eliot suggests that theorists who neglect to consider the impact of neural plasticity on shaping brains may be more accustomed to using evidence from animal research, where neural plasticity is less well-evidenced<sup>375</sup> – although the impact of culture and experience even on primate brains has been demonstrated.<sup>376</sup> Animal research provides a background and foundation for much of the brain organisation research. While reliance on animal research is

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<sup>373</sup> Gerianne M Alexander and Melissa Hines, 'Sex differences in response to children's toys in nonhuman primates (*Cercopithecus aethiops sabaeus*)' (2002) 23(6) *Evolution and Human Behavior* 467.

<sup>374</sup> Fine, (n 220) 154-175.

<sup>375</sup> Eliot, (n 314).

<sup>376</sup> Sonya M Kahlenberg and Richard W Wrangham, 'Sex differences in chimpanzees' use of sticks as play objects resemble those of children' (2010) 20(24) *Current biology* R1067.

perfectly legitimate and credible, using such research to explain human behaviour has obvious limitations which need to be carefully considered.

### 3.3.6 Understanding difference

In psychology, 'different' is often used in its statistical sense, where the average scores of the two groups under investigation are sufficiently far apart to pass a particular statistic threshold.<sup>377</sup>

Scientists use effect size as a measure, which is intended to compensate for some of the uncertainty generated if 'differences' are simply identified as a percentage of a cohort, without taking into account the extent of the differences and the size of the groups being measured. Effect size is measured by calculating the average score from each of two groups, and subtracting the lower average from the higher average. That number is then divided by the standard deviation across both groups. The resulting figure gives an indication of how much the two groups overlap.

Effect size is a more meaningful indicator of the extent of differences measured and identified. However, Rippon explains that even a large effect size figure such as 2.0 (the effect size when comparing height of men and women) is not an indicator of huge differences. Rather, with an effect size of 2.0, there is still an overlap between the groups of over 30%. So that even where effect sizes are large, they reflect results that sit along a spectrum, rather than results whereby the two groups being compared clearly belong in different categories. Where research studies report 'significant differences' between the sexes, there might be an overlap of 80% or 90%.<sup>378</sup> If a comparison between two groups has a significant effect size, it may be that most individuals within the two groups sit in the overlap section of a Venn diagram. Eighty percent of the time it would be impossible to know to which of the two groups an individual belonged just by looking at their score relating to a difference which was designated as 'significant.'

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<sup>377</sup> Rippon, (n 45) 58-62.

<sup>378</sup> Ibid.

The way in which research on sex differences is conducted reflects assumptions about the nature of difference itself. It is generally taken as self-evident that the difference between men and women can be conceived of either as two poles of a single continuum (where being more masculine implies being less feminine) or as entirely different dimensions (where masculinity and femininity are conceived as categorically different in kind). However, the nature of difference between men and women likely defies both of these models of comparison. If we don't assume that male and female are stable, static and distinct categories, but that maleness and femaleness are contested and constantly in flux, influenced by diffuse and multifarious effects, we might design research around more complex forms of comparison.

Joel et al argue that to describe male and female brains (or any other binary) as categorically different, two conditions must be satisfied. First, the categories must be dimorphic, with little overlap between the two forms. Secondly, there must be internal consistency in the form of elements within each brain within the categories. Critics of the male/female brain thesis have pointed out that within neuroscience, sex/gender differences are non-dimorphic population-level differences with extensive overlap of the distributions of females and males and therefore aren't actually dimorphic.<sup>379</sup>

Jordan-Young and Rumiati provide a lucid comparison between sex differences of genitals and those of brains.

Imagine that one were to take scientific photographs of the genitals of 1000 human adults, and present these photos to a team of judges without any other contextual cues as to the sex/gender of the individual to whom the genitals belong. Even if our judges were ordinary people with no special training or insights, it would be possible to sort the photographs into 'male' versus 'female' piles with almost 100% accuracy. This is not to suggest that there is no intra-sex variety in genital size and shape, but in a group of only 1000 people, it will be possible to clearly place almost all human genitals into one of two main types. Human brains are another matter entirely.<sup>380</sup>

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<sup>379</sup> See, for example, *ibid.*

<sup>380</sup> Jordan-Young and Rumiati (n 17) 307.

Although figures relating to 'effect size' offer a more meaningful indicator of the extent of differences measured and identified, even where effect sizes are large, they reflect results that sit along a spectrum, rather than results whereby the two groups being compared clearly belong in different categories. The differences are statistical rather than categorical.

A number of features of sexual differentiation processes dictate that sex differences in the brain are unlikely to produce internal consistency within the categories of male and female. Firstly, male and female sex hormones and genetics impact on the brain independently. 'masculinization and feminization are independent processes and... sexual differentiation progresses independently in different brain tissues.'<sup>381</sup> Secondly, some chromosomal and hormonal sex effects impact differently according to environmental conditions. These processes may be different for different brain features.<sup>382</sup> The sheer complexity of the process of brain differentiation under the influence of sex hormones and genetics indicates that internal consistency within the categories of male and female is highly unlikely. Joel et al carried out a large study investigating sex differentiation in the brain and conclude that,

although there are sex/gender differences in brain structure, brains do not fall into two classes, one typical of males and the other typical of females, nor are they aligned along a "male brain–female brain" continuum... even when considering only the small group of brain features that show the largest sex/gender differences, each brain is a unique mosaic of features, some of which may be more common in females compared with males, others may be more common in males compared with females, and still others may be common in both females and males.'<sup>383</sup>

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<sup>381</sup> McCarthy, Margaret M, and Arnold, Arthur P 'Reframing Sexual Differentiation of the Brain.' (2011) 14(6) *Nature Neuroscience* 677-83 cited in Joel 'Sex beyond the genitalia: The human brain mosaic' (n 17).

<sup>382</sup> Joel, (n 17) 1.

<sup>383</sup> Joel et al, (n 4) 5.



Evidence from neuroscience research does not show dimorphic categories with little overlap, and does not show internal consistency within either category of male and female. '[B]rains, in contrast to genitals, do not come in distinct, fixed male or female forms.'<sup>384</sup>

As discussed in section 3.2.2 above, evidence of group differences does not provide insight into individual mental processing, though it is interpreted that way. As Fine explains,

Group differences in brain activity are not readily translated into psychological differences and this gap in knowledge of brain-mind relations creates a danger that, as in the past, gender stereotypes will be drawn upon to putty-fill in the gap.<sup>385</sup>

A related concern about the study of 'difference' in the brain is posed by Roy when she asks whether researchers seek to identify sex differences for the purpose of understanding differences in and of themselves, or whether the purpose is to identify characteristics by which to divide and categorise people. One example she points to relates to studies of brain differences in men and women who are confronted with images of sexual infidelity. In one study the researchers claim to identify a response in the amygdala that is more activated in men than women when viewing such images. Rather than using a framework to identify, for example, the differences between men predisposed to violence towards women and men who are not, or to investigate how some men abate their jealous anger, instead 'their results end up reinforcing the idea that men are biologically hardwired for violence.'<sup>386</sup> Although the study of neuroscience as it relates to men's violence against women has strong potential to contribute to addressing serious social problems, the preoccupation with establishing differences that categorise men and women in line with stale and harmful stereotypes undermines the progressive potential of such research. O'Connell and Karpin also argue that understanding

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<sup>384</sup> Fine et al, (n 315).

<sup>385</sup> Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 273).

<sup>386</sup> Roy, (n 293) 224.

difference in a more complex and nuanced way is vital '... difference is, in fact, normal and ... 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.'<sup>387</sup>

Instead of studying differences, Hyde and others<sup>388</sup> have emphasised the similarities between men and women across a range of criteria and competencies. Hyde argues that little or no attention has been devoted to theorizing gender similarities.<sup>389</sup> Her gender similarities hypothesis posits that males and females are largely the same on most psychological variables. Her thesis is based on an analysis of 46 meta-analyses comparing men and women.

Strikingly, 30% of the effect sizes were between 0 and 0.10, and an additional 48% were in the range of a small difference, between 0.11 and 0.35. That is, 78% of the gender differences were small or very close to 0.<sup>390</sup>

The pre-occupation with reporting difference over similarity results in theories which build large structures on a plethora of small differences.

### 3.4 Neuroculture and the Cerebral Subject

The deep entanglement of cultural and social issues in neuroscience, outlined in the previous sections, is inherent in bioscientific research which explores the nature of human thought and behaviour. This entanglement clearly means that while science is inevitably embedded in cultures of sex and gender, so too are cultural forms always absorbing and interpreting

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<sup>387</sup> Karpin, Isabel, and O'Connell, Karen. "Stigmatising the 'normal': The Legal Regulation of Behaviour as a Disability." (2015) 38(4) *University of New South Wales Law Journal* 1461, 1463

<sup>388</sup> Hyde, 'The Gender Similarities Hypothesis', (n 212); Hyde, 'Gender Similarities and Differences', (n 71); A Fausto-Sterling, 'How sexually dimorphic are we? Review and Synthesis - Response' (2003) 15(1) *American Journal of Human Biology* 115; Anelis Kaiser et al, 'On sex/gender related similarities and differences in fMRI language research' (2009) 61 *Brain Research Reviews* 49.

<sup>389</sup> Hyde, 'The Gender Similarities Hypothesis', (n 212);

<sup>390</sup> Hyde, 'Gender Similarities and Differences', (n 76) 375.

scientific knowledge. The consumption and diffusion of brain-sex binary theories exemplifies the intermingling of science and culture that characterises all scientific endeavour. The critique of research discussed throughout this chapter and the broader thesis is not a call for greater objectivity in neuroscientific research, but for greater awareness of the impact of the inevitable imbrication of values and preconceptions in the conduct of the research and interpretation of results. The intent is not to insist on a pure scientific process uncontaminated by values and bias, but 'rather to raise awareness of the socio-cultural embeddedness which cannot be avoided in any scientific endeavour.'<sup>391</sup> Attention within social science and legal disciplines to this embeddedness is an emerging discipline sometimes referred to as 'neuroculture.'

The term 'neuroculture' has also been used to describe the interpretation and mediation of neuroscience throughout various discourses,<sup>392</sup> including legal discourse. To date, neuroscience has rarely emerged directly in legal doctrine relating to legal regulation of sex and gender, yet its influence in understanding legal categories and in reinforcing legal boundaries between male and female is important. As social and scientific contestation over the meaning of sex and gender intensifies with the liberalisation of popular notions about what it means to be a man or a woman, law – as a primary source of regulatory power - is called on to delineate those boundaries in clear and unambiguous terms. Brain-sex binary theories and concepts are filtering into legal discourse and directing overt and covert forms of regulation to assist in that delineation. In Chapters 6 and 7 I analyse their impact in Australian Family Court cases dealing with trans and intersex minors respectively.

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<sup>391</sup> Schmitz, Sigrid, 'Sex, Gender, and the Brain - biological determinism versus socio-cultural constructivism' in Ineke Klinge and Claudia Wiesemann (eds), *Sex and Gender in Biomedicine - Theories, Methodologies, Results* (Göttingen University Press, 2010), 59.

<sup>392</sup> Giovanni Frazzetto and Suzanne Anker 'Neuroculture' (2009) 10(11) *Nature Reviews. Neuroscience* 815-821.

The neurocultural representation of the individual and the essential in humanity has generated much interest in social science among writers such as Ortega,<sup>393</sup> Vidal<sup>394</sup> and Rose.<sup>395</sup>

Commentators in the social sciences have coined the term 'cerebral subject' to describe a new configuration of the individual in terms of their brain. The cerebral subject is 'characterised by the property of "brainhood" i.e. the property or quality of being, rather than simply having, a brain.'<sup>396</sup>

Neuroscience, on one reading, has the potential to 'physicalize human identity'<sup>397</sup> In that sense, the information and insight it offers takes on an ontological complexion, situating behaviour, emotion and personality in the physical brain. But we must be wary of a view that science has social impacts because science is itself an intrinsically socio-cultural activity which is woven into our social fabric. As Vidal comments, 'this view reproduces the belief that humans have a biological self on which culture and intersubjectivity are somehow tacked.'<sup>398</sup> This provides a salutary warning in relation to legal scholarship seeking to trace the impact of neuroscience on law. The cultural and political embeddedness of legal institutions means that doctrine and literature in law is also a cultural discourse and practice.

The 'seductive allure' of neuroscience is a phenomenon which has been identified and tested. For example, one 2008 study concluded that '[e]ven irrelevant neuroscience information in an explanation of a psychological phenomenon may interfere with people's abilities to critically

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<sup>393</sup> Francisco Ortega and Fernando Vidal 'Mapping the Cerebral Subject in Contemporary Culture' (2007) 1(2) *Electronic Journal of Communication information and Innovation in Health*, 255.

<sup>394</sup> Fernando Vidal (ed), *Neurocultures: Glimpses into an Expanded Universe* (2011, Peter Lang); Fernando Vidal 'Brainhood, anthropological figure of modernity' (2009) 22(5) *History of the Human Sciences* 5, 7.

<sup>395</sup> Nikolas Rose *The Politics of Life Itself: Biomedicine, Power, and Subjectivity in the Twenty-First Century* (2007, Princeton University Press); Anne Harrington, Nikolas Rose, and Ilina Singh (2006) 'Editors' Introduction' *BioSocieties* 1, 1.

<sup>396</sup> Ortega and Vidal (n 365) 256.

<sup>397</sup> Francisco Ortega, 'The Cerebral Subject and the Challenge of Neurodiversity' (2009) 4(4) *BioSocieties* 425, 440.

<sup>398</sup> Fernando Vidal 'Brainhood, anthropological figure of modernity' (n 366) 10.

consider the underlying logic of this explanation.’<sup>399</sup> The increased credibility of evidence when grounded in a neuroscientific context has generated interest and concern within the field of ‘neuroculture.’<sup>400</sup> The reception of neuroscience in the legal context has engendered a body of speculation, analysis and research which has profound implications for how law understands the sexed and gendered body.<sup>401</sup> As I will explore in Part two of the thesis, a neuroscientific framework has promoted and disseminated the idea that gender identity, like sexual orientation, is a biological artefact that is static and innate. This conception of gender identity has emerged in legal decision-making for trans minors.

### 3.5 Conclusion

In this chapter I have considered competing theories of gender identity and how it develops. A central controversy is whether gender identity (and gender itself) is determined primarily by nature or nurture. This controversy mimics another binary - of male and female - that dominates and frames thinking about sex and gender. Both frames distort and essentialise how we think about gender and gender identity. In the same way that the sex/gender dichotomy has reduced the richness and complexity of theorizing about both sex and gender, the nature/nurture dichotomy provides a template of development that oversimplifies and fails to identify and appreciate cross-pollination, reverse flows and multiplicity in the interaction of biological and environmental/cultural processes.

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<sup>399</sup> Skolnick Weisberg et al, (n 216) 470.

<sup>400</sup> Suparna Choudrhury, Saskia Kathi Nagel and Jan Slaby, ‘Critical Neuroscience: Linking Neuroscience and Society Through Critical Practice’ (2009) 4 *BioSocieties* 61.

<sup>401</sup> For example, Michael S Pardo ‘Neuroscience Evidence, Legal Culture, and Criminal Procedure’ (2006) 33 *American Journal of Criminal Law* 301; D Michael Risinger and Jeffrey L Loop ‘Three Card Monte, Monty Hall, Modus Operandi and “Offender Profiling”: Some Lessons of Modern Cognitive Science for the Law of Evidence’ (2002) 24 *Cardozo Law Review*, 195; Stephen J Morse, ‘Neuroscience and the Future of Personhood and Responsibility’ in Jeffrey Rosen, Benjamin Wittes eds *Constitution 3.0: Freedom and Technological Change* (2011, Brookings Institution Press); L Steinberg and E S Scott ‘Less Guilty by Reason of Adolescence: developmental immaturity, diminished responsibility, and the juvenile death penalty’ (2003) 58 *American Psychology* 1009; Stephen Morse ‘New Neuroscience, Old Problems’ in B Garland (ed) *Neuroscience and the Law: Brain, Mind and the Scales of Justice*, (2004, Dana Press) 157-198; Joshua Green and Jonathon Cohen ‘For the Law, Neuroscience Changes Nothing and Everything’ (2004) 359 *Philosophical Transactions of the Royal Society London* 1775.

Section 2 of this chapter was dedicated to identifying and teasing out some of the significant flaws and weaknesses that have been identified in the body of research supporting and promoting brain organisation theory. Many of the flaws and weaknesses replicate similar problems that plagued research on sex hormones and sex chromosomes. Research implicating and emphasising human sex differences is often undermined by the inability to look beyond sex stereotypes in research design, interpretation and dissemination.

The critiques of brain organisation theory raise significant concerns about the validity and credence of the research as well as its interpretation. What emerges is a picture of research that echoes and reinforces sexist stereotypes because these stereotypes are built into the research parameters and design itself. By assuming that stereotypes represent sound and reliable conclusions, much of the research uses them as proven criteria of masculinity and femininity. As Jordan-Young has shown, even where stereotypes shift and transform under cultural pressure, the researchers fail to identify or acknowledge the moving goalposts and present a series of unrelated studies and conclusion as a body of rigorous and coherent evidence. While theorists present unsubstantiated ideas as proven facts, the valuable insights afforded by neuroscience research are undermined. The research produces and reinforces harmful negative stereotypes in the guise of scientific evidence, and because of the allure of neuroscience, that evidence has special salience in how it is defined and disseminated.

In the next chapter I look at brain organisation theory as it relates to gender identity development in people with intersex variations. Surprisingly, there are two bodies of literature on this issue which reach very different conclusions. Articles within the literature testing brain organisation claim that evidence about gender in intersex people supports the theory that prenatal androgen exposure produces male brains. However there is a substantial body of literature looking at gender identity in cohorts of people with intersex variations and studies within this literature almost always conclude that sex of rearing is a more reliable predictor of gender identity than fetal androgen exposure. The latter research nevertheless tends to acknowledge and even endorse brain organisation theory despite the contradictory outcomes.

## Chapter 4 Intersex Variations

### 4.1 Introduction

Intersex people have innate sex characteristics that don't fit medical and social norms for female or male bodies, and that put them at risk of or lead to stigma, discrimination and harm.<sup>402</sup> Sex characteristics are physical features relating to sex, including chromosomes, genitals, gonads and other reproductive anatomy, and secondary features that emerge from these at puberty.<sup>403</sup>

Intersex variations are always congenital, but the etiology, timing and somatic expression vary greatly. There are a large number of different conditions which may result in a person being born with an intersex variation. Across different variations there is great diversity, and each variation can manifest in a wide variety of ways. This makes it difficult to provide simple or straightforward definitions and summaries. Intersex variations affect a biological aspect of the body that typically develops along sexually dimorphic lines, such as genital anatomy, reproductive organs and chromosomes.

The very existence of intersex bodies challenges the security of claims about the natural status of binary sex. Most current legal and medical responses to intersex bodies attempt to erase ambiguity. In pursuit of this aim to reinforce the boundaries between male and female

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<sup>402</sup> Admin, 'Welcome!' *Intersex Human Rights Australia* (Web Page, last updated 22 February 2021) <https://ihra.org.au/19853/welcome/>.

<sup>403</sup> Admin, 'Intersex is not a gender identity, and the implications for legislation' *Intersex Human Rights Australia* (Web Page, last updated 7 January, 2019) < <https://ihra.org.au/17680/intersex-characteristics-not-gender-identity/>>; Yogyakarta Principles: Additional Principles and State Obligations on the Application of International Human Rights Law in relation to Sexual Orientation and Gender Identity Plus 10 (10 November 2017) <<https://yogyakartaprinciples.org/>> <[http://www.yogyakartaprinciples.org/principles\\_en.pdf](http://www.yogyakartaprinciples.org/principles_en.pdf)> (YP plus 10); Morgan Carpenter, 'Intersex Human Rights, Sexual Orientation, Gender Identity, Sex Characteristics and the Yogyakarta Principles plus 10' (2019) 23(4) *Culture, Health and Sexuality* 516.

‘aberrational bodies which challenge legal boundaries between persons or categories... must be surgically normalized.’<sup>404</sup> As Intersex Human Rights Australia (IHRA) argue, ‘medical interventions are intended to construct normative identities.’<sup>405</sup> Because of the diversity of intersex variations, intersex traits may become apparent at birth or later in life, often at puberty.<sup>406</sup> Social, legal and medical responses vary depending on the geographic location and age of the intersex person.<sup>407</sup>

This chapter will introduce the reader to the relatively poorly understood experiences of intersex people in their interactions with the medical establishment in order to develop an understanding of what is at stake when we turn to the legal responses to intersex below. Of course, the medical establishment is not a monolithic institution. Medical professionals and bio-scientists adopt, express and develop a wide range of views and practices, particularly in relation to an issue as controversial and contested as medical interventions on people with intersex variations. Medical and clinical practices in Australia are diverse and variable. Moreover, the standards and practices that prevail in the medical treatment of intersex people are hidden from public view.

In this chapter I detail some specific interactions in Australia between intersex people and the medical profession, and I contemplate which issues and concerns are driving the current practices. I am investigating the extent to which medical and judicial decisions reflect a neuroscientific understanding of the sexed and gendered person. Is brain organisation theory providing a framework for making decisions about the sexed and gendered identity of intersex people as it has been for transgender people? If not, what framework is predominant? Has there been a genuine transformation in medical practices over the last 25 or 30 years, as is

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<sup>404</sup> Marie Fox and Michael Thomson, (n 15), 516.

<sup>405</sup> Intersex Human Rights Australia, Submission to the Australian Human Rights Commission Inquiry on protecting the rights of people born with variations in sex characteristics in the context of medical interventions, Intersex Human Rights Australia No (2018).

<sup>406</sup> Androgen Insensitivity Syndrome Support Group Australia et al, 'Darlington Statement' (2017) <<https://darlington.org.au/statement>>. Some variations may be discovered only by accident such as DNA testing for other purposes, and would otherwise have gone unnoticed.

<sup>407</sup> Senate Committee Report, (n 2) 66-69 [3.103] – [3.108].



often claimed? The discussion in this chapter provides some of the groundwork for the legal and socio-cultural analysis of the cases outlined in chapter 7.

In section 2 of this chapter I explore the contested borders of what variations 'count' as intersex. I look at which variations are included and which are excluded from the category, and what that tells us about what intersex signifies in social, political, legal and medical discourse. The outline provided in chapter 2 of historical medical engagement with intersex is relevant here because that historical narrative continues to inform and influence current responses. In section 3 of this chapter I will build on that outline with a focus on the era of 'optimal gender theory' - John Money's theory that gender is malleable up to the age of three years.<sup>408</sup>

Section 4 analyses bioscientific and medical evidence about gender identity development of intersex people, and whether that evidence supports or is consistent with brain organisation theory. In the final section (section 5) I explore the biomedical approach to intersex variations more broadly and consider non-neuroscientific reasons why intersex people may develop unexpected and unpredictable gender identity, sexual orientation or gender role. I also provide evidence to suggest that current medical approaches to intersex have departed very little from optimal gender theory, despite its strong rhetorical rejection. This has direct significance for legal decision-making, and for the status of intersex people before the law.

## 4.2 What is Intersex?

There is broad consensus within the medical community about which variations 'count' as intersex, though there are disagreements and questions at the margins. For example the most common form of intersex - Congenital Adrenal Hyperplasia (CAH) - is a genetic variation which causes excess androgen production in utero in people with a double X chromosome. The condition is also referred to as 46,XX CAH.) People with 46,XX CAH have female-typical

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<sup>408</sup> John Money, Joan G Hampson and John L Hampson, 'Imprinting and the Establishment of Gender Role' (1957) 77(3) *Archives of Neurology and Psychiatry* 333.

chromosomes and gonads, but their genitals are not female typical and may appear more male-typical than is usual.

Most people with 46,XX CAH develop a female gender identity. For this reason, a common attitude within the medical profession, shared by many parents of CAH children, is that CAH is not an intersex variation,<sup>409</sup> but rather a ‘disorder’ which produces anomalous genital development, and that therefore the genitals can be ‘reshaped’ through early surgery. Gonzales and Ludwikowski comment ‘Given the fact that the term DSD includes many conditions with problematic gender identity and conflicts with the gender assigned at birth, it may be appropriate to exclude females with CAH from the DSD classification.’<sup>410</sup> This suggests a fundamental misunderstanding of the term ‘intersex’ because gender identity is not a relevant criteria in determining whether a person has an intersex variation. Many – in fact most – people with intersex variations are cisgender with respect to their assigned sex and don’t report ‘problematic gender identity and conflicts with gender assigned at birth.’<sup>411</sup> Like people with CAH, those with androgen insensitivity syndrome (CAIS) ‘invariably have a female typical core gender identity.’<sup>412</sup> However no commentators have suggested that people with CAIS should not be counted as intersex.

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<sup>409</sup> González, R and Ludwikowski, BM ‘Is It Beneficial to Patients to Include Congenital Adrenal Hyperplasia (CAH) Among the Disorders of Sex Development (DSD)?’ (2018) 12(6) *Frontiers in Pediatrics* 344.

<sup>410</sup> Ibid 48.

<sup>411</sup> Tiffany Jones et al, (n 35) 76; See also Martina Jürgensen et al, ‘Psychosexual Development in Adolescents and Adults with Disorders of Sex Development—Results from the German Clinical Evaluation Study’ (2013) 10(11) *The Journal of Sexual Medicine* 2703; Androgen Insensitivity Syndrome Support Group Australia et al, (n 378); Dana M Bakula et al, ‘Gender identity outcomes in children with disorders/differences of sex development: Predictive factors’ (2017) 41(4) *Seminars in Perinatology* 214; Callens et al, (n 280); Fisher et al, (n 307); Martine Jurgensen et al, ‘Psychosexual Development in Adolescents and Adults with Disorders of Sex Development—Results from the German Clinical Evaluation (2012) 10(11) *Journal of Sexual Medicine* 2703.

<sup>412</sup> Guy T’Sjoen et al, ‘Male Gender Identity in Complete Androgen Insensitivity Syndrome’ (2011) 40(3) *Archives of Sexual Behavior* 635, 635.

The focus on gender identity and confusion about the centrality of gender identity in defining intersex is widespread. It may be because of the increasing public and cultural understanding of trans issues, compounded by the alliances forged under the LGBTI umbrella. Because of intersex's inclusion in the rainbow alliance, it is widely assumed that intersex is about sexuality and/or gender identity. It may be because the name 'intersex' itself suggests something about the 21<sup>st</sup> century attention to sexuality and to the nuances of gender fluidity. It may be the association with 'third sex' ideas and a misunderstanding that intersex activists seek recognition of an official third sex.<sup>413</sup> Because of these confusions and misconceptions, it needs to be emphasised that intersex is not defined by gender identity issues but according to biological sex characteristics. IHRA capture the issue succinctly:

The reality is that intersex persons are united not by a shared identity, sexual orientation or gender identity, but instead by common experiences of stigma, discrimination and violence due to our innate sex characteristics.<sup>414</sup>

Because the definition of intersex is focused on the extent to which an individual's biological traits don't conform to a stereotypical template of male and female bodies, other conditions such as hypospadias and polycystic ovarian syndrome are sometimes proposed by intersex advocates as intersex variations.<sup>415</sup>

Hypospadias is the medical label where the urethra (the shaft through which urine and sperm emerge) on a man's penis is located somewhere other than the tip of the penis. The opening may be further down on the head of the penis, or on the shaft, or on the scrotum. The prevalence of hypospadias is debated and the debate is complicated by the fact that a large percentage of men have a urethral opening that is not located on the tip of the penis. In a study conducted in 1995, physicians examined 500 men and found that only 55% could be labelled 'normal' and the other 45% could be classified as having hypospadias.<sup>416</sup> Although clinicians would not label the genitals of 45% of men as hypospadiac, this conveys that a cultural

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<sup>413</sup> Carpenter, (n 3).

<sup>414</sup> Intersex Human Rights Australia, Submission to the Australian Human Rights Commission Inquiry on protecting the rights of people born with variations in sex characteristics in the context of medical interventions, (2018).

<sup>415</sup> See, for example, Karkazis, (n 51) loc 1949

<sup>416</sup> J Fichtner et al, 'Analysis of meatal location in 500 men: wide variation questions need for meatal advancement in all pediatric anterior hypospadias cases' (1995) 154(2 Pt 2) *Journal of Urology* 833.

understanding of how genitals 'should' look and function impacts on what is constructed as a bio-medical diagnostic question. A medical response to hypospadias is usually prompted by the fact that the location of the urethra prevents the man or boy from being able to urinate standing up. This is constructed as a medical problem of function that requires surgical intervention.<sup>417</sup> The idea that men must not be forced to urinate sitting on a toilet rather than standing in front of one is seen as a strictly biomedical issue of function rather than as a cultural or social stereotype. Hypospadias is a common phenomenon in some intersex conditions, but can also occur without any other variation. In those circumstances it is not considered an intersex condition, even though it meets the criteria in that the genitals do not comply with the stereotypical male genital formation.

The biomedical attitude is that variations should not be classified as intersex if possible, because labelling something as a Disorder of Sex Development or DSD is stigmatizing and demeaning. On the other hand, Intersex Human Rights Australia argues that the intersex population should be defined as widely as possible to minimize the risk that any restrictions that may be imposed to address human rights concerns will be circumvented through changes to clinical terminology.<sup>418</sup> In the context of intersex, we need to broaden our understanding of the extent to which departure from stereotypical sexed embodiment is understood as a 'normal difference.' As O'Connell and Karpin suggest, 'we need to complicate our understanding of normalcy so that disability and normalcy are not mutually exclusive categories.'<sup>419</sup>

There is a powerful tendency within biomedicine to individualise and disaggregate diagnostic categories and to minimize commonalities across different variations. This is necessary and important in some contexts. From a clinical perspective, people with different variations require individualised medical treatment and attention. Intersex embraces a range of biological traits, some requiring complex and highly specialized medical treatment. Each variation has its

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<sup>417</sup> Katrina Roen, "'But We Have to Do Something': Surgical "Correction" of Atypical Genitalia' (2008) 14(1) *Body & Society* 47.

<sup>418</sup> Morgan Carpenter, Submission to the Australian Human Rights Commission, Protecting the Rights of People Born With Variations in Sex Characteristics in the Context of Medical Interventions (2018) 19.

<sup>419</sup> O'Connell and Karpin (n 387), 1463.

own distinctive characteristics, some of which can cause significant health problems and even emergencies. This makes an individualised focus vital for some clinical purposes. Also, many individuals with intersex variations share embodied and lived experiences with others who are affected by the same variation. It is vital to consider, debate and engage with issues at the level of each particular variation and its likely manifestation. However, the tendency to disaggregate intersex with a focus on each 'diagnostic category' within a clinical perspective can be problematic if it masks the political and social dimensions of clinical practices, particularly when many of those practices are grounded in social and cultural values and assumptions that are not biomedical in nature.

Disaggregation of intersex conditions also tends to give rise to an emphasis on the apparent low prevalence of each individual variation, rather than giving consideration to the higher prevalence of intersex as an over-arching variation in human embodiment. The construction of intersex as freakishly rare in both medicine and law has helped to bolster medical authority. While it is true that intersex conditions are comparatively rare, the frequent reference to rarity is conspicuous. The cases on intersex often include comments on rarity which position the circumstances as requiring the most expert knowledge and training. In *Re Dylan*, the child is described as having 'a rare form of Congenital Adrenal Hyperplasia known as 11 Beta-hydroxylase deficiency.'<sup>420</sup> However, CAH is the most common form of intersex, and 11 Beta-hydroxylase deficiency is the second most common form of CAH.<sup>421</sup> Contrast this with *Re A* (*a*

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<sup>420</sup> *Re Dylan* [2014] FamCA 969, [11].

<sup>421</sup> 'an estimated frequency of 1:200 000 live births' Soara Menabò et al, 'Congenital adrenal hyperplasia due to 11-beta-hydroxylase deficiency: functional consequences of four CYP11B1 mutations' (2014) 22(5) *European Journal of Human Genetics* 610.

*Child*)<sup>422</sup> where CAH was constructed as common enough for there to be an accepted treatment management approach, with which the judge chastises the parents for failing to comply.<sup>423</sup>

In *Re Lesley*, an expert witness attested to the rarity of Lesley's condition:

I have not assessed a child with this particular very rare condition in the past, although I have assessed many children with various similar disorders of sexual development and gender identity.<sup>424</sup>

Lesley has a variation called 17-hydroxysteroid dehydrogenase deficiency (17- $\beta$ /HSD deficiency). The condition affects about 1 in 147 000 people in European populations, though it is much more common – 1 in 200 or 300 - in some middle eastern populations.<sup>425</sup> While it is not surprising that a specialist in Australia may not have encountered anyone with that particular variation, in some parts of the world the condition is relatively common. In *Re Sally*,<sup>426</sup> the child had a variation called 5- $\alpha$ -Reductase Deficiency (5 $\alpha$ -R2D) which was described by the judge as 'an extremely rare condition [which] affects only genetic males.'<sup>427</sup> Like 17- $\beta$ /HSD deficiency, 5 $\alpha$ -R2D is rare in most populations, but is much more common in different parts of the world including the Dominican Republic, Papua New Guinea and Turkey. In one village in The Dominican Republic, the variation affects 12 out of 13 families, and 1 in every 90 males are affected carriers.<sup>428</sup> In *Re Sean and Russell*, the judge commented that Russell and Sean 'each suffer from a very rare condition called Denys-Drash Syndrome. It is thought that the two

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<sup>422</sup> *Re A* (n 209).

<sup>423</sup> *Ibid* [13] This case is the only exception to the judicial commentary on the rarity of intersex variations.

<sup>424</sup> *Re Lesley* (Special Medical Procedure) [2008] FamCA 1226, [15].

<sup>425</sup> Catherine A Sullivan, Jodi D Hoffman and Joshua D Safer, '17- $\beta$ -hydroxysteroid dehydrogenase type 3 deficiency: Identifying a rare cause of 46,XY female phenotype in adulthood' (2018) 7 *Journal of Clinical and Translational Endocrinology: Case Reports* 5.

<sup>426</sup> *Re Sally* (Special Medical Procedure) [2010] FamCA 237.

<sup>427</sup> *Ibid* 31, [5].

<sup>428</sup> Julianne Imperato-Mcginley et al, 'Steroid 5 $\alpha$  -Reductase Deficiency in Man: An Inherited Form of Male Pseudohermaphroditism' (1974) 186(4170) *Science* 1213.

children are the only two people in Australia who suffer from it.<sup>429</sup> Of all the variations described, Denys-Drash Syndrome is most accurately described as rare.<sup>430</sup>

This ubiquitous reference to rarity is in contrast to the construction of childhood trans identity and gender dysphoria. Estimates of prevalence of transgender, especially childhood transgender, vary widely, and it is likely that growing prevalence data reflects an increasing acceptance of trans identities in both children and adults. Estimates from a few years ago were that 1 in 14 705 adults who were assigned male at birth and 1 in 38 461 adults assigned female at birth are trans or experienced gender dysphoria consistent with the criteria in DSM-5. Current estimates are significantly higher, with reports from DSM-5 of the 'prevalence for male-to-female gender dysphoria to be between 5 and 14 per 1000 adult males (0.015–0.014) and between 2 and 3 per 1000 adult females (0.002–0.003) experience gender dysphoria.'<sup>431</sup> This means that trans identity is quite rare. Yet the rarity of childhood gender dysphoria is not identified, described or commented on in the cases or in the clinical literature. I argue that this construction of rarity of intersex variations consolidates the authority of the medical professionals, as well as de-politicizing the gender issues by casting them as abnormal, isolated, individualised and de-contextualized.

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<sup>429</sup> Re Sean and Russell (Special Medical Procedures) [2010] FamCA 948, 2 [12].

<sup>430</sup> Heathcott RW, Morison IM, Gubler MC, Corbett R, Reeve AE 'A review of the phenotypic variation due to the Denys-Drash syndrome-associated germline WT1 mutation R362X' (2002) 19(4) *Human Mutation* 462.

<sup>431</sup> Kenneth J Zucker, 'Epidemiology of gender dysphoria and transgender identity' (2017) 14(5) *Sexual Health* 404; Hillary B Nguyen et al, 'What has sex got to do with it? The role of hormones in the transgender brain' (2019) 44(1) *Neuropsychopharmacology* 22.

## 4.3 Intersex and Medicalisation

In Chapter 2 I outlined various stages in the search for biological markers and triggers for the development of differentiated sex characteristic. Each of these moments in the search for true sex impacted directly on biomedical and legal responses to intersex people.

Following the waning of the conviction that gonads are the ‘true sex’ marker, the early 20<sup>th</sup> century medical encounter with intersex people became more idiosyncratic. Doctors would make approximate sex assignments at birth, and see whether puberty brought about bodily changes. If so, then sex re-assignments could be carried out, including genital surgeries and sterilisation. However, Redick reports that very often the ‘gonadal indicators’ would be ignored if the person’s ‘psychological sex’ was in conflict with the proposed reassignment.<sup>432</sup> A key concern was to prevent homosexuality, and Redick argues that heightened anxiety among medical professionals about the uncertainty regarding sexual behaviour of intersex people led to a strong push for standardization and the development of treatment protocols.<sup>433</sup>

### 4.3.1 Optimal gender theory and practice

In Chapter 2 I outlined the development of a new approach to treating intersex patients which emerged in the 1950s, led by John Money, a sexologist at Johns Hopkins Hospital. It is worth exploring the details of Money’s theory and how it was put into practice in more detail, as it continues to influence and arguably dominate medical approaches to intersex people today.

As noted in chapter 2, Money’s theory of gender development was complex and he was not, as is often argued or assumed, purely a social constructionist.<sup>434</sup> Money argued that biology

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<sup>432</sup> Redick, (n 161).

<sup>433</sup> Ibid.

<sup>434</sup> Ibid 293.



played an important role in gender development, and he and his colleagues were early researchers on the impact of fetal hormone exposure on gender development and brain organisation.<sup>435</sup> He referred to his thesis as 'interactionist' in the sense of incorporating interaction of environment and biology. Money's view of biological impact relied heavily on reductive gender stereotypes and biological determinism.<sup>436</sup> This stymied the extent to which his work is seen as genuinely interactionist and limited his vision of gender: 'as long as dimorphism remains at the centre of discourse, other patterns of difference remain hidden both as possibility and as reality.'<sup>437</sup>

For Money, gender was not infinitely plastic. Rather, he theorized that gender was relatively plastic from birth until around the age of three or four.<sup>438</sup> At that age, the gender of rearing sediments and becomes fixed. This meant that successful gender assignment required unambiguous rearing in one sex or the other before the child reached the 'gender identity gate' at around the age of 3 or 4 years. However, the psychological factors were not the only significant limitation. The dominance of sex of rearing would be undermined if it contradicted the anatomy. Specifically, if a child was to be reared as a male, their genital appearance was vital. A boy child had to have a penis that was relatively 'normal' in order to develop a stable male gender identity, although if a child was to be reared female, the presence or absence of a vagina was 'of remarkably little concern.'<sup>439</sup> This meant that surgical management often dictated whether an intersex child was assigned male or female.

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<sup>435</sup> See, for example, John Money, 'Influence of Hormones on Sexual Behavior' (1965) 16(1) *Annual Review of Medicine* 67.

<sup>436</sup> Downing, Morland and Sullivan, (n 41) Loc 364.

<sup>437</sup> Helen E Longino, *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry* (Princeton University Press, 2020), 171.

<sup>438</sup> John Money, Joan G Hampson and John L Hampson, 'Imprinting and the Establishment of Gender Role' (1957) 77(3) *Archives of Neurology and Psychiatry* 333.

<sup>439</sup> John William Money, *Hermaphroditism: An Inquiry into the Nature of Human Paradox with a Part Two: Ten Case Reports* (PhD Thesis, Harvard University, 1952). Cited in Downing, Morland and Sullivan, (n 35) Location 1424.

Since feminization was the only kind of reassignment surgery that could be done sufficiently early in life to have this purported effect—preceding the closure of the gender identity gate—Money’s theory of plasticity led to asymmetric clinical practice: feminization became the norm, and masculinization the exception.<sup>440</sup>

While Money’s theoretical position was complex, nuanced and shifted over time, the treatment protocols for intersex children he developed were rigid and essentialist. Money and his colleagues at Johns Hopkins Hospital Gender Clinic continued to research and publish, developing, tweaking and elaborating on details of the theory of gender development.

The treatment protocols were published in five articles authored by Money together with Joan and John Hampson and published by the *Bulletin of the Johns Hopkins Hospital* in 1955 and they were disseminated widely and for many years with little change or development.<sup>441</sup> These protocols were adopted in developed countries with astonishing alacrity<sup>442</sup> and the protocols quickly became so predominant that they are rightly described as a hegemony which lasted for almost 50 years. ‘This theory is so strongly endorsed that it has taken on the character of gospel.’<sup>443</sup> As Kessler explains in her book published in 1990,

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<sup>440</sup> Downing, Morland and Sullivan, (n 41) location 1442.

<sup>441</sup> Joan G Hampson ‘Hermaphroditic Genital Appearance, Rearing, and Eroticism in HyperAdrenocorticism’ (1955) 96 *Bulletin of the Johns Hopkins Hospital* 265; John L Hampson, Joan G Hampson & John Money, ‘The Syndrome of Gonadal Agenesis (Ovarian Agenesis) and Male Chromosomal Pattern in Girls and Women: Psychologic Studies’ (1955) 97 *Bulletin of the Johns Hopkins Hospital* 207; John Money, Joan G Hampson & John L Hampson, ‘Hermaphroditism: Recommendations Concerning Assignment of Sex, Change of Sex, and Psychologic Management,’ (1955) 97 *Bulletin of the Johns Hopkins Hospital* 284; John Money, Joan G Hampson & John L Hampson ‘An Examination of Some Basic Sexual Concepts: The Evidence of Human Hermaphroditism’ (1955) 97 *Bulletin of the Johns Hopkins Hospital* 301; John Money, Joan G Hampson & John L Hampson ‘Sexual Incongruities and Psychopathology: The Evidence of Human Hermaphroditism, 98V. (1956) *Bulletin of the Johns Hopkins Hospital* 43.

<sup>442</sup> Downing, Morland and Sullivan, (n 41), loc 1424.

<sup>443</sup> Suzanne J Kessler, ‘The Medical Construction of Gender: Case Management of Intersexed Infants’ (1990) 16(1) *Signs: Journal of Women in Culture and Society* 3, 15.

Contradictory data are rarely cited in reviews of the literature, were not mentioned by any of the physicians interviewed, and have not reduced these physicians' belief in the theory's validity.<sup>444</sup>

Redick argues, 'The protocols were built on the notion that perfect genders could be achieved in intersex subjects as long as all evidence of contradiction was eliminated.'<sup>445</sup> Anatomical 'contradiction' could be eliminated medically and surgically. This would be bolstered by stringent secrecy regarding the child's intersex variation. Unavoidably the parents were aware, but were strictly instructed not to allow the child to discover their intersex status. Surgeries, regular visits to the hospital and the doctor, and other medical interventions were carried out and the child patients were told lies about their purpose. If possible, siblings, relatives, teachers, family friends and other children were kept in the dark to avoid inadvertently tainting the gender attribution with uncertainty or doubt.

Children were reared in accordance with strict rigid gender stereotyping – girls don't play with boys, or guns or swords or bicycles. They don't play rough and tumble games, but always wear feminine clothes and have long hair.

Both doctors and parents were equipped with a list of behavioral patterns and traits against which to assess and monitor a child's gender role differentiation. It was therefore not only the child whose sex was disciplined but the whole family became the "micro-clinic" for the management of gender.<sup>446</sup>

As a result of the protocols, intersex came to be viewed by doctors as a 'correctable birth defect.'<sup>447</sup>

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<sup>444</sup> Ibid.

<sup>445</sup> Redick, (n 161), 293.

<sup>446</sup> Repo, (n 36) 235.

<sup>447</sup> Kessler, (n 443) 5.

As Repo notes, ‘the pressure parents were put under was heightened by a discourse of urgency’<sup>448</sup> and this is emphasised by other commentators such as Davis.<sup>449</sup> A sense of urgency was created in part by the conviction that any corrective surgery should be undertaken as early as possible,<sup>450</sup> both to bolster gender consistency and (if the child was to be assigned female, as most intersex children were) to avoid traumatic memories of castration.<sup>451</sup> The commitment to early genital surgery was also supported by unsubstantiated claims of better healing, less scarring and overall improved results. Another concern was to alleviate parental anxiety and doubt about the assigned sex. Early surgery was said to contribute to better bonding between parents and child. One geneticist interviewed by Kessler expressed concern that when parents ‘change a diaper and see genitalia that don’t mean much in terms of gender assignment, I think it prolongs the negative response to the baby.’<sup>452</sup>

Decisions about gender assignment were, as noted above, biased towards female assignment. This is because of the centrality of penis size to the establishment of a secure male gender identity, according to Money’s theory. For example, one pediatric surgeon explained that ‘The decision to raise the child with male pseudohermaphroditism as a male or female is dictated entirely by the size of the phallus.’<sup>453</sup> This was true across a number of intersex variations. Money outlines the fundamental rule:

Never assign a baby to be reared, and to surgical and hormonal therapy, as a boy, unless the phallic structure, hypospadiac or otherwise, is neonatally of at

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<sup>448</sup> Repo, (n 36), 236; Davis, *Contesting Intersex: The Dubious Diagnosis* (n 28), 118.

<sup>449</sup> Davis, *Contesting Intersex: The Dubious Diagnosis* (n 28) 118.

<sup>450</sup> Money and Ogunro, (n 323). Although vaginoplasty was often deferred until puberty.

<sup>451</sup> Ellen Feder, *Making Sense of Intersex: Changing Ethical Perspectives in Biomedicine* (Indiana University Press, 2014), 90.

<sup>452</sup> Kessler, (n 443) 9.

<sup>453</sup> Donahoe cited in Kessler Suzanne Kessler, *Lessons from the Intersexed* (Rutgers University Press, 1998), 25.

least the same caliber as that of same-aged males with small-average penises.<sup>454</sup>

Since intersex variations are usually detected at birth because the genitals do not conform to the stereotypical size and shape of newborn boys or girls, this meant that most of these children had a phallic structure considered inadequate for a boy.

Kessler, writing in 1998, argued that by contrast '[t]here is a striking lack of attention to the size and shape requirements of the female genitals, other than that the clitoris not be too big and that the vagina be able to receive a penis.'<sup>455</sup> Very little attention was paid to sexual pleasure and sensitivity. The focus was explicitly on appearance and passive sexual function.

John Money's fall from grace is usually attributed to revelations about a key case study – often referred to as the John/Joan case - in which Money was involved. In 1967, Money was approached by the parents of David Reimer. David was an identical twin, whose penis had been destroyed in a medical procedure that went seriously wrong. David Reimer provided a perfect test case for optimal gender theory. Since there was always concern that the gender identity development of intersex children could somehow be disrupted by the intersex condition itself, David was an ideal candidate to see how the theory would work in the case of a biologically 'normal' boy. Even better, David was an identical twin, so there was an in-built control for the experiment.

Money recommended genital surgery to remove David's testicles and what was left of his penis. On Money's instructions David's parents engaged in rigid gender socialization, and he was given a new name, 'Brenda' that matched his female assignment. In the research publications, Money referred to the David/Brenda case as the 'John/Joan' case. In line with Money's treatment protocols for intersex children, David's medical history was kept a secret, not only from David himself but from teachers, family friends, and anyone connected to the family. The success of David's female assignment depended on them implementing the female socialization as strictly

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<sup>454</sup> John Money, 'Psychological Counselling: Hermaphroditism' in LI Gardner (ed) *Endocrine and Genetic Diseases of Childhood and Adolescence* (W B Saunders, 1975) 609–618, 610.

<sup>455</sup> Kessler, (n 453) 26-27.

as possible. Of course, the socialization was based on highly stereotyped understanding of 'normal' female behaviour and thinking. David returned to Money's clinic at Johns Hopkins Hospital every year and Money reported the success of the project in his many articles and particularly in his book *Man & Woman, Boy & Girl*.<sup>456</sup>

Reports about David/Brenda dried up in Money's writing at around the time that she would have been going through puberty. This aroused the curiosity of Milton Diamond, an academic who was exploring the significance of hormones on gender development and was convinced that Joan would struggle at puberty. Diamond discovered that at age 14 Brenda had rejected hormone treatment and refused to continue living as a girl. David went on to live as a man and ultimately to marry and raise children as a man. Diamond tracked David Reimer down and interviewed him. Diamond reports that David Reimer was upset at the knowledge that Money had used him as an exemplar of the success of optimal gender theory.<sup>457</sup> David Reimer's story was picked up by a journalist and published in Rolling Stone magazine.<sup>458</sup> The journalist subsequently wrote a best-selling book detailing Reimer's story.<sup>459</sup> Tragically, Reimer suicided a few years later.

David Reimer's story is now used as evidence in support of brain organisation theory.<sup>460</sup> The emergence of a male gender identity in a child raised female does provide comfort to brain-sex binary theorists, but there are a range of factors that might contribute to David's ultimate

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<sup>456</sup> John Money and Anke E Ehrhardt, *Man & Woman, Boy & Girl: The Differentiation and Dimorphism of Gender Identity from Conception to Maturity* (Johns Hopkins University Press, 1972).

<sup>457</sup> M Diamond and H K Sigmundson, 'Sex reassignment at birth. Long-term review and clinical implications' (1997) 151(3) *Archive of Pediatric Adolescent Medicine* 298.

<sup>458</sup> John Colapinto, 'The true story of John/Joan' (1997) 775 *Rolling Stone* 54.

<sup>459</sup> John Colapinto, *As Nature Made Him : the Boy who was Raised as a Girl* (HarperCollins Publishers, 1<sup>st</sup> ed, 2000).

<sup>460</sup> Dick F Swaab and Alicia Garcia-Falgueras, 'Sexual differentiation of the human brain in relation to gender identity and sexual orientation' (2009) 24(1) *Functional Neurology* 17.

gender identity.<sup>461</sup> Furthermore, a similar case of an endosex boy whose penis was accidentally destroyed and who was raised female ended with the child identifying as a girl.<sup>462</sup>

In any case, the publicity surrounding David Reimer's life, and the disrepute that it brought to optimal gender theory coincided with an upsurge of political activism by intersex people who challenged the legitimacy and ethics of their treatment at the hands of the medical establishment. A key figure in this movement was Cheryl Chase, who founded the Intersex Society of North America (ISNA) and who had a profound impact on intersex activism worldwide.<sup>463</sup>

## 4.4 Gender Identity

### 4.4.1 Introduction

Research on brain organisation theory relies heavily on evidence about gender behaviour, identity and sexual orientation of people with intersex variations. This is because, as Jordan-Young notes,<sup>464</sup> quasi-experiments involving human development approach the research question from either a population perspective or a cohort perspective. As Jordan-Young and Rumiati explain

Brain organization studies can be broadly divided into two types. The first type is cohort studies—those that begin with some knowledge about early hormone exposures, and investigate whether categories of exposure correlate with categories of later brain function. ... The second type is case-control studies—those that begin with some knowledge about the behavioral or functional phenotype (the presumed outcome of the brain organization

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<sup>461</sup> See, for example, discussions in Karkazis (n 51); and Jordan-Young (n 1).

<sup>462</sup> Sheri A Berenbaum and J Michael Bailey, 'Effects on Gender Identity of Prenatal Androgens and Genital Appearance: Evidence from Girls with Congenital Adrenal Hyperplasia' (2003) 88(3) *The Journal of Clinical Endocrinology & Metabolism* 1102; Susan J Bradley et al, 'Experiment of Nurture: Ablatio Penis at 2 Months, Sex Reassignment at 7 Months, and a Psychosexual Follow-up in Young Adulthood' (1998) 102(1) *Pediatrics* e9.

<sup>463</sup> See, for example, discussion in Karkazis, (n 52) particularly chapter 8.

<sup>464</sup> Jordan-Young, (n 1).

process), and work backwards to search for evidence that distinct phenotypes correlate with distinct hormones on the front end of development.<sup>465</sup>

The former category refers to studies which identify a cohort population which is known to have unusual hormone exposure in utero, and then investigate the extent of atypical sexual behaviour and identity.<sup>466</sup> According to one pre-eminent theorist, 'intersex conditions can further clarify the importance of androgens because in most cases, intersex genitalia are a result of prenatal abnormalities involving androgen.'<sup>467</sup> In other words, atypical genitals signal the impact of atypical prenatal hormones. People who have natural variations in sex characteristics therefore seem a perfect 'natural' experiment.

If brain organisation theory is correct, then high fetal androgen exposure should cause masculinization of behaviour, sexual orientation and gender identity. Since some intersex variations are associated with atypical hormone exposure, those variations yield a relevant cohort for studying the impact of fetal androgens. As an example researchers may make comparisons between chromosomal women with high androgen exposure and women with typical hormone exposure in utero, looking for differences across specific points of comparison such as sexual orientation, gender identity and behaviours that are considered to be male- or female-typical.

Prenatal hormones are usually described as organizing the brain before birth and activating gendered behaviour post-natally, on the basis that the gendered brain is 'apparently due to the *organizing* effect of testosterone on early brain development and the *activating* effect of testosterone in puberty.'<sup>468</sup> This explanation suggests that gender identity begins to develop in utero and this development continues up to the age of puberty. This understanding of gender identity development emerges in much of the literature, even where the same resources describe the gendered brain as 'hard-wired' at birth.

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<sup>465</sup> Jordan-Young and Rumiati, (n 17) 308.

<sup>466</sup> Jordan-Young, (n 1).

<sup>467</sup> Hines, (n 214) 455.

<sup>468</sup> Bao and Swaab, 'Sexual differentiation of the human brain: Relation to gender identity, sexual orientation and neuropsychiatric disorders', (n 101) 215.



One difficulty in understanding the literature on gender identity of intersex people is that it can be unclear what researchers and clinicians mean when they refer to ‘assignment’ of gender. Strictly speaking, sex assignment of intersex children should mean the decision about which gender the child should be assigned to. However, within the intersex medical paradigm, gender assignment typically does not mean simply a *decision* about the gender to which the child should be assigned for psycho-social and legal purposes, as it would for endosex infants. It means the decision about the gender to which the child should be assigned, *together with* the medical interventions believed necessary to achieve that assignment. So a child who has female chromosomes and gonads but who has atypical genitals as a result of CAH will be assigned female *and given early genital surgery and possibly sterilisation* as part of that assignment. Thus the term ‘assignment’ is ambiguous. In bioscientific intersex literature it generally betokens extensive medical interventions ranging from genital surgery to sterilization. However, this can be difficult to discern and many studies do not explain whether participants have undergone any medical interventions, even where that information might be relevant to the research.<sup>469</sup>

The extensive literature on gender assignment of intersex people is largely separate and distinct from the literature on brain organisation theory. The former includes discussion of gender identity development in the context of a complex web of possible medical interventions, implicating surgical possibility, fertility and family dynamics. As an example, Lee and Houk note that

The standard of care for 46,XX CAH patients diagnosed in infancy has been to recommend a female gender assignment and sex of rearing. This standard is based on the idea that these patients are really female—as defined by karyotype— and the benefit of preserving fertility outweighs a small risk of

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<sup>469</sup> For example, researchers investigating the impact of androgens on male-identifying people with 5 $\alpha$ -R2D may not include information about gonadectomies performed in infancy.

future gender dysphoria or dysfunctional sexual function *resulting from surgery* [emphasis added].<sup>470</sup>

The literature is full of similar comments which unquestioningly assume that medical interventions will automatically follow from a sex assignment. In commenting on sex assignment, Byers et al note that 'sex of rearing is assigned based on diagnosis, genital appearance, *surgical options*, potential fertility and need *for lifelong hormonal therapy*.'<sup>471</sup> Because so much of the literature fails to indicate whether the participants have been subjected to medical interventions, interpreting the data becomes difficult. For example, if a journal article reports that a percentage of people with the 5 $\alpha$ -R2D variation identify as male at or after puberty, then the number of participants on whom gonadectomies were performed in early childhood is a highly relevant factor in assessing the impact of pre- and post-natal androgens on gender identity. Furthermore, the discussion of gender assignment becomes invariably tangled with considerations of how orthodox medical treatment can achieve 'normalisation' of the body as well as gendered behaviour, gender role, sexual orientation and gender identity.

Although much of the brain organisation research has been done on intersex people, the literature which looks at sex assignment of intersex people is not primarily concerned with proving or disproving brain organisation theory. The articles regarding gender assignment tend to bury the issue of gender identity within a knot of medical, surgical and psycho-social concerns. This tangling of diverse factors and considerations – both medical/surgical and psycho-social - makes sense if you begin with a presumption that gender assignment is always

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<sup>470</sup> Lee, P A and C Houk 'Review of Outcome Information in 46,XX Patients with Congenital Adrenal Hyperplasia Assigned/Reared Male: What Does It Say about Gender Assignment?' (2010) 2010 *International Journal of Pediatric Endocrinology* 982025, 2.

<sup>471</sup> Heather M Byers et al, 'Unexpected ethical dilemmas in sex assignment in 46,XY DSD due to 5-alpha reductase type 2 deficiency' (2017) 175(2) *American Journal of Medical Genetics Part C: Seminars in Medical Genetics* 260, 261.

accompanied by extensive invasive medical interventions, many of which are irreversible. Getting the assignment wrong means that the person who has been subjected to surgeries, sterilisation and hormone treatments that permanently impact on the body may develop iatrogenic gender dysphoria, a momentous problem.<sup>472</sup> Both law and medicine appropriately recognise the suffering of trans endosex minors and urgently strive to alleviate that suffering by altering the body's sex characteristics to align with the minor's gender identity. Altering the sex characteristics of an intersex minor to *misalign* with the minor's gender identity and hence create dysphoria is hugely problematic.

The literature generally discusses gender identity according to diagnostic category. In the next section, I outline some of the key diagnostic categories where there is a large body of associated literature on the development of gender identity. For each of these categories, I consider whether the research findings support brain organisation theory.

#### 4.4.2 Congenital Adrenal Hyperplasia (CAH)

CAH is the most common form of intersex. In a chromosomally female fetus the normal hormone milieu is altered by an influx of androgens. If the individual has an XX karyotype, this high androgen exposure will, according to brain organisation theory, organise the brain along a masculine pathway. We would expect masculinized behaviour, sexual attraction to women, and male gender identity. CAH cohort studies are the backbone of brain organisation theory.<sup>473</sup>

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<sup>472</sup> Of course, these interventions also occur if the gender assignment is 'correct.' But in that case, the interventions are seen as justified by the outcome. Typically, the interventions are constructed as *producing* a stable gender identity.

<sup>473</sup> Jordan-young (n 1).

It is considered well-established that girls with CAH exhibit masculinized behaviour in their play.<sup>474</sup> They play with male toys, they play boisterously and they play with boys rather than with girls. As Hines describes it, girls with CAH show

enhanced preferences for toys usually chosen by boys (e.g. cars, trucks, guns), and reduced preferences for toys usually chosen by girls (e.g. dolls, cosmetics, kitchen equipment), as well as increased preferences for boys as playmates and for male-typical playstyles, such as rough, active play<sup>475</sup>

This 'male-typical' behaviour continues through childhood and adolescence and into adulthood;

The masculinization extends to all domains of gendered behavior whereby healthy males and females typically differ: childhood play, affiliation with male versus female peers, physical-activity level, physical strength, aggression, adolescent leisure-time activities, sports participation, career preferences, voice characteristics in adulthood, habitual body positions and movement patterns, romantic/erotic attraction toward women, and maternalism.<sup>476</sup>

Jordan-Young, among others, argues that the research identifying masculinized behavior of women and girls with CAH relies too heavily on theories of fetal hormone exposure and ignores significant factors that are likely to impact on gendered behaviour, sexuality and gender identity.<sup>477</sup> For example, CAH often impacts significantly on metabolism, producing 'obesity (41%), hypercholesterolemia (46%), insulin resistance (29%), osteopenia (40%), and osteoporosis (7%).'<sup>478</sup> These metabolic differences have an impact on morphology, making

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<sup>474</sup> Although the conclusions that this behaviour is inherently masculine and is caused by fetal androgen exposure are challenged – see for example Fine, (n 206); Fine, 'Is There Neurosexism in Functional Neuroimaging Investigations of Sex Differences?', (n 251); Jordan-Young, (n 1); Rebecca M Jordan-Young, 'Hormones, context, and "Brain Gender": A review of evidence from congenital adrenal hyperplasia' (2012) 74(11) *Social Science & Medicine* 1738.

<sup>475</sup> Hines, (n 214) 457.

<sup>476</sup> Heino F L Meyer-Bahlburg, 'Sex Steroids and Variants of Gender Identity' (2013) 42(3) *Endocrinology and Metabolism Clinics of North America* 435, 438.

<sup>477</sup> Arlt, W, Willis, D S, Wild, S H, Krone, N, et al. 'Health status of adults with congenital adrenal hyperplasia: a cohort study of 203 patients' (2010) 95(11) *Journal of Clinical Endocrinology and Metabolism*, 110e5121 quoted in Jordan-Young, (n 474).

<sup>478</sup> Ibid 1740.

women with CAH on average shorter, more hirsute and more likely to be obese. They are more likely to have acned skin. All of these markers in a society which values tall, slender and hairless appearance in women are likely to impact on how women and girls with CAH see themselves in terms of femininity. This is just one of four factors Jordan-Young identifies as relevant that are ignored when brain organisation theorists point to women with CAH as support for their theory.<sup>479</sup> These issues are discussed further in section 4.5.5 below.

Women born with CAH variations are invariably assigned female even if their genitals are atypical. As mentioned above, 90-95% of girls and women with CAH identify as female. That means around 10% or less develop a male gender identity, despite the extent of fetal androgen exposure. Working against brain organisation theory is the fact that male gender identity development cannot be predicted from the extent of genital virilization.<sup>480</sup>

On the other hand, Fisher et al state that 'a recent study has reported that gender identity, measured as a continuous variable, may correlate in 46,XX CAH with indicators of androgen exposure.'<sup>481</sup> In support they cite an article by Pasterski et al<sup>482</sup> from 2015. However, the cited study was of a cohort of children ages 4 – 11, so the evidence in support of a link between male gender identity development and androgen exposure in utero is not compelling. Generally speaking, the literature does not identify a significant correlation between levels of fetal androgen exposure and male gender identity development.

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<sup>479</sup> Ibid.

<sup>480</sup> Fisher et al, (n 307); Sheri A Berenbaum and J Michael Bailey, (n 436).

<sup>481</sup> Fisher et al, (n 307) 1215.

<sup>482</sup> Vickie Pasterski et al, 'Increased Cross-Gender Identification Independent of Gender Role Behavior in Girls with Congenital Adrenal Hyperplasia: Results from a Standardized Assessment of 4- to 11-Year-Old Children' (2014) 44(5) *Archives of Sexual Behavior* 1363.

While 10% is high compared to the rates of gender change across the general population, it does not support a thesis that gender identity is determined by fetal androgen. Rather, researchers state that

With respect to gender identity, in addition to prenatal androgenization, genetic factors may play a role. Another explanation could be that, in these patients, social factors influence the development of gender identity more strongly than the development of gender-related behavior.<sup>483</sup>

While studies show an increase in 'masculine' behaviour and sexual orientation, the overwhelming majority of women with CAH do not develop a male gender identity. Only 5-10% of 46,XX people with this variation identify as male. Although this is well above the average rate of gender dysphoria for the general population, the fact that 90-95% identify as women throws doubt on brain organisation theory as it applies to gender identity.

This inconsistency has been acknowledged by some proponents of brain organisation theory:

The findings support that (a) prenatal androgen exposure has a large effects [sic] on (gendered) activity interests, but to a much lesser extent on sexual orientation and that (b) initial gender of rearing remains a better predictor of gender identity contentedness than prenatal androgen exposure, beyond syndrome severity and medical influences.<sup>484</sup>

In some articles, these anomalous findings are explained away by suggesting that gender identity develops at a later time – generally at about 2 or 3 years of age – and involves different factors compared to other parts of the brain impacting on gendered behaviour and sexual orientation.<sup>485</sup>

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<sup>483</sup> Arianne B Dessens, Froukje M E Slijper and L S Drop Stenvert, 'Gender Dysphoria and Gender Change in Chromosomal Females with Congenital Adrenal Hyperplasia' (2005) 34(4) *Archives of Sexual Behavior* 389, 395.

<sup>484</sup> Callens et al, (n 306) 8.

<sup>485</sup> Wallen, K, & Baum, M J 'Masculinization and defeminization in altricial and precocial mammals: Comparative aspects of steroidhormone action' In D W Pfaff, A P Arnold, A M Etgen, S EFahrbach, & R T Rubin (Eds.), *Hormones, Brain, and Behavior*. (Academic Press, 2002) 385.

### **4.4.3 Intersex variations that reduce fetal androgens of 46,XY embryos: 5 $\alpha$ -Reductase Deficiency (5 $\alpha$ -R2D) and 17- $\beta$ /HSD deficiency**

5 $\alpha$ -R2D affects genetic males. 5 $\alpha$ -Reductase is an enzyme that converts testosterone to dihydrotestosterone (DHT). DHT plays a critical role in male sexual development in utero. A deficiency means that the fetus develops male gonads but the genitals may be feminine in appearance, or may be somewhat masculine and somewhat feminine. Hypospadias is common. Often the testicles do not descend into the scrotum (cryptorchidism). At puberty the bodies of people with this variation may show signs of virilization such as increased muscle mass, deepening voice and testicles descending. This is because the mature gonads can produce DHT without the need for 5 $\alpha$ -reductase.

Genetic males with 5 $\alpha$ -R2D are exposed to normal levels of androgen in utero, although they lack the enzyme to process the testosterone. Variability in the amount of enzyme available during pregnancy will determine 'phenotypic variability from hypospadias or micropenis in the most virilized individuals to external genitalia that appear normal female in the most severe cases.'<sup>486</sup> If the enzyme deficiency is small, then the genitals will masculinize. If the deficiency is large, then the genitals will remain feminine.

Genetic males with 17- $\beta$ /HSD deficiency also do not produce testosterone in utero. The enzyme 17-beta hydroxysteroid dehydrogenase 3, which is active in producing testosterone from a weaker precursor androgen called androstenedione, is not active. The fetal testes do not generate testosterone and the absence or shortage of the stronger hormone reduces the androgen levels during fetal development. At puberty, conversion of androstenedione to testosterone increases in various tissues of the body through processes involving other enzymes. The additional testosterone may masculinize the body during puberty. A portion of the androstenedione is also converted to estrogen. Since the fetal androstenedione is not

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<sup>486</sup> Byers et al, (n 471) 261.

converted to testosterone there is more androstenedione in the body, and higher levels of estrogen may be produced. The impact of these hormones on the pubertal development of secondary sex characteristics is somewhat unpredictable.

There is evidence from a range of sources that approximately 60% of 46,XY people with 5 $\alpha$ -R2D and 17- $\beta$ /HSD deficiency identify as male post-puberty, even when they are raised female.<sup>487</sup>

An early study of 34 adults with 5 $\alpha$ -R2D from the Dominican Republic concluded that

Thus, it appears that the extent of androgen (ie testosterone) exposure of the brain *in utero*, the early postnatal period, and at puberty, has more impact in determining male gender identity than the sex of rearing.<sup>488</sup>

However it seems from the available evidence that gender identity does not correlate with levels of 5 $\alpha$ -Reductase. According to Cohen-Kettenis, 'the degree of external genital masculinization at birth does not seem to be related to gender role changes in a systematic way.'<sup>489</sup> Fisher et al affirm that 'there is not to date a clear relationship between the severity of the enzymatic defect and gender identity and why changes in gender role occur in some patients but not in others.'<sup>490</sup>

The traditional medical protocol developed under optimal gender theory was to assign 46,XY people with intersex variations as female. This required surgical sterilization, genital surgeries and a lifetime of hormone treatment. The recommendations about gender assignment in the 2004 Consensus Statement are quite weak and ambivalent:

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<sup>487</sup> Peggy T Cohen-Kettenis, 'Gender Change in 46,XY Persons with 5[alpha]-Reductase-2 Deficiency and 17[beta]-Hydroxysteroid Dehydrogenase-3 Deficiency' (2005) 34(4) *Archives of Sexual Behavior* 399.

<sup>488</sup> Imperato-Mcginley et al, (n 428) 1236. The biological essentialism inherent in the article by Imperato-McGinley et al is challenged by Herdt and Davidson in their anthropological study of people in Sambia with the 5-ARD intersex variation. G H Herdt, and J Davidson 'The Sambia "Turnim-Man": Sociocultural and Clinical Aspects of Gender Formation in Male Pseudohermaphrodites with 5-Alpha-Reductase Deficiency in Papua New Guinea. (1988) 117(1) *Archives of Sexual Behavior* 33.

<sup>489</sup> Cohen-Kettenis, (n 487) 399.

<sup>490</sup> Fisher et al, (n 307) 1216.



In 5\_RD2 and possibly 17\_-hydroxysteroid dehydrogenase deficiencies, for which the diagnosis is made in infancy, the combination of a male gender identity in the majority and the potential for fertility (documented in 5\_RD2 but unknown in 17-hydroxysteroid dehydrogenase deficiencies) *should be discussed* when providing evidence for gender assignment [emphasis added].<sup>491</sup>

There is increasing support for assigning children as male on the basis that the majority of children with this variation end up identifying as male.<sup>492</sup> However, evidence from the Australian Family Court<sup>493</sup> suggests that the dominant practice in Australia (at least in some health districts) is to continue to assign these children as female. This assignment is always accompanied by the practice of early gonadectomy.

Byers notes that 'there are few clinical and laboratory indicators of adult gender identity in 5 $\alpha$ -R2D,'<sup>494</sup> which makes analysis of the impact of pubertal hormones difficult. Furthermore, the overwhelming majority of adults with this variation in Western developed countries have had gonadectomies. Many of the articles discussing the available research fail to clearly identify whether the participants have undergone surgical sterilization or not. Byers concludes that

Systematic review of adult gender identity in patients raised as females with early gender-enforcing surgery is lacking; it is not known if early surgery leads to higher rates of concordant female adult gender identity.<sup>495</sup>

The evidence from the research on people with this intersex variation does not provide strong support for brain organisation theory, since there is little to suggest a strong relationship between levels of androgen exposure and gender identity development. Gender identity is difficult to predict, since a substantial minority (at least 40%) of people with this variation do identify as women. Moreover it is not clear whether early gonadectomy prevents later development of male gender identity. The available evidence strongly suggests that gender

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<sup>491</sup> Lee (n 19) e491.

<sup>492</sup> Bakula et al, (n 411); Byers et al, (n 471); Zofia Kolesinska et al, 'Changes Over Time in Sex Assignment for Disorders of Sex Development' (2014) 134(3) *Pediatrics* e710.

<sup>493</sup> *Re Carla (Medical Procedures)* [2016] FamCA 7 ('*Re Carla*'); *Re Lesley (Special Medical Procedure)* [2008] FamCA 1226. ('*Re Lesley*').

<sup>494</sup> Byers et al, (n 471), 262.

<sup>495</sup> *Ibid*, 265.

identity is complex, interactive and multi-factorial, taking in pre- and post-natal hormonal conditions as well environmental, biological, social and psychological factors. As Fisher et al argue,

[I]t has been suggested that unidentified pre- and postnatal factors, a better knowledge of the natural history of the disorder in some areas, and sociocultural issues may participate, all together, in influencing gender identity and role. In fact, biological factors aside, socialization and learning have been shown to contribute significantly to gender identity and role.<sup>496</sup>

Most of the literature on gender assignment of children with 5 $\alpha$ -R2D and 17- $\beta$ /HSD deficiency similarly identifies gender identity development as complex and interactive.<sup>497</sup>

#### 4.4.4 Complete (CAIS) and Partial (PAIS) Androgen Insensitivity Syndrome

In some people, the androgen receptor gene does not function fully or at all, meaning that despite a male karyotype and gonads, the genitals will not be male-typical in appearance. Androgen Insensitivity can be complete or partial. If complete, then a 46,XY person will have genitals that appear stereotypically female. Very often, Complete Androgen Insensitivity Syndrome (CAIS) is not detected until the person reaches puberty. People with CAIS almost invariably identify as female.<sup>498</sup> Medical management has recommended early gonadectomy.<sup>499</sup>

If the testes are not removed before puberty, their (normal) estradiol production will result in development of breasts. The testes must eventually

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<sup>496</sup> Fisher et al (n 307) 1216.

<sup>497</sup> Byers et al, (n 471); Mendonca B B, et al '46,XY disorders of sex development (DSD)' (2009) 70(2) *Clinical Endocrinology* 173; Sandberg, D E, Gardner, M, & Cohen-Kettenis, P T 'Psychological aspects of the treatment of patients with disorders of sex development' (2012) 30(5) *Seminars in Reproductive Medicine* 443.

<sup>498</sup> Amy B Wisniewski et al, 'Complete Androgen Insensitivity Syndrome: Long-Term Medical, Surgical, and Psychosexual Outcome' (2000) 85(8) *Journal of Clinical Endocrinology & Metabolism* 2664; Bakula et al, (n 411).

<sup>499</sup> Lee et al, (n 19).

be removed due to the risk of cancer and, after removal, life-long estrogen replacement therapy is started in adolescence.<sup>500</sup>

This is expressed to be prophylactic in response to cancer risk, though the actual risk of malignancy is not well understood.<sup>501</sup>

If, however, a child is born with male chromosomes and gonads and a partial androgen insensitivity (PAiS), this may result in genitals that are not fully male or fully female in appearance. This will attract medical management from a young age, including genital surgery and gonadectomy. Gender identity is difficult to predict. Mazur claims that 'the best predictor of gender identity outcome in adulthood is the initial gender assignment,'<sup>502</sup> although he also notes that whether assigned male or female, almost 10% of people with this variation change gender.<sup>503</sup> There is no evidence that male gender identity correlates to higher levels of prenatal androgen exposure.<sup>504</sup>

#### 4.4.5 Conclusion

Evidence and research of intersex people that is said to support brain organisation theory does not provide solid evidence that fetal androgens determine gender identity. Evidence of fetal androgen exposure does not correlate clearly with male gender identity in any of the variations discussed above, and the data across other variations is similar. Medical literature discussing likely gender identity development usually identifies sex of rearing as the most reliable indicator of gender identity. For example, Hines states 'for the great majority of individuals with

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<sup>500</sup> Tom Mazur 'Gender Dysphoria and Gender Change in Androgen Insensitivity or Micropenis' (2005) 34(4) *Archives of Sexual Behavior* 411, 411.

<sup>501</sup> U Döhnert, L Wunsch and O Hiort, 'Gonadectomy in Complete Androgen Insensitivity Syndrome: Why and When?' (2017) 11(4) *Sexual Development* 171.

<sup>502</sup> Mazur, (n 500) 419.

<sup>503</sup> Ibid.

<sup>504</sup> Ibid.

CAH, or other causes of intersex conditions, core gender identity is consistent with the chosen sex of rearing, regardless of what sex that is.<sup>505</sup> According to Mazur<sup>506</sup> and Bakula et al 'research suggests that the strongest predictor of adult gender identity in the majority of DSD diagnoses is sex of rearing,'<sup>507</sup> Callens et al found that 'initial gender of rearing remains a better predictor of gender identity contentedness than prenatal androgen exposure, beyond syndrome severity and medical treatment influences.'<sup>508</sup> Jurgenson et al conducted a study of 176 adolescents and adults with intersex variations living in Germany, Austria and Switzerland and concluded that 'individuals were able to develop a stable gender identity according to sex of rearing.'<sup>509</sup>

Cohen-Kettenis states that 'Although prenatal brain exposure to androgens plays some part in the development of gender role behaviour, the current evidence is not in line with the idea of determination of gender identity through prenatal sex steroid exposure. Recent reviews on gender dysphoria and gender change in patients with intersex conditions show that initial gender assignment still seems to be the best predictor of adult gender identity,'<sup>510</sup> The conclusion that most intersex people develop a gender identity consistent with sex of rearing is widely agreed.

However, as explored in sections 4.4 above and 7.3 below, sex of rearing, though a better indicator of gender identity development than other factors such as androgen exposure, is not a *good* indicator of gender identity. Although the majority of people with intersex variations

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<sup>505</sup> Hines, (n 214) 457.

<sup>506</sup> Mazur, (n 500).

<sup>507</sup> Bakula et al, (n 411) 214.

<sup>508</sup> Callens et al, (n 306) 8.

<sup>509</sup> Jurgensen et al, (n 411) 10.

<sup>510</sup> Peggy Cohen-Kettenis, 'Psychological Long-Term Outcome in Intersex Conditions' (2005) 64(2) *Hormone Research in Paediatrics* 27, 27.

identify with their sex of rearing, levels of gender change and gender dysphoria are significantly higher than the general population.<sup>511</sup>

Clinicians and brain organisation theorists tend to conceptualise gender identity in a reductive binary fashion. Most articles refer to gender dysphoria as a reflection of unhappiness with one gender and a desire to belong to the opposite gender. Gender is seen as binary and, once established, fixed and stable. Anything other than a stable and essentialist self-identification of gender is seen as problematic. Many articles report on dissatisfaction with gender assignment as a similar but less extreme version of dysphoria.<sup>512</sup> It is unusual in the literature to see an acknowledgement of gender identity as anything other than a one-dimensional static understanding of self as either male or female. As Liao comments, 'Self-identification as male or female is not a fixed attribute waiting to unveil itself, rather an expression of complex, multiple and interactive developmental processes.'<sup>513</sup> Despite signs in the literature of some changes in practice,<sup>514</sup> this complexity is rarely reflected in the literature.

## 4.5 Current Medical Interventions and Practices

### 4.5.1 Introduction

In order to reveal the intertwining of brain-sex binary theories and medical practice which law is called upon to regulate, in this section I consider current medical approaches to intersex,

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<sup>511</sup> Kreukels, BPC, Kohler, B, Nordenstrom, A, Roehle, R, Thyen, U, Bouvattier, C, De Vries, ALC, and Cohen-Kettenis, PT 'Gender Dysphoria and Gender Change in Disorders of Sex Development/Intersex Conditions: Results From the DSD-LIFE Study.' (2018) 15(5) *Journal of Sexual Medicine* 777; Ramesh Babu and Utsav Shah, 'Gender identity disorder (GID) in adolescents and adults with differences of sex development (DSD): A systematic review and meta-analysis' (2021) 17(1) *Journal of Pediatric Urology* 39.

<sup>512</sup> Kreukels et al, (n 511).

<sup>513</sup> LM Liao et al, 'Determinant factors of gender identity: A commentary' (2012) 8(6) *Journal of Pediatric Urology* 597, 598.

<sup>514</sup> Kolesinska et al, (n 492).

including the extent to which evidence of gender identity development influences decision-making. The discussion goes beyond the issue of gender identity, however, and looks closely at the evidence about genital surgeries and sterilisation. I argue that many of the treatments and outcomes are relevant to the issue of gender identity development, but are not taken into account in medical and legal decision-making.<sup>515</sup>

It is very difficult to identify current common practice in the medical treatment of intersex variations. Practitioners are acutely aware of the critiques of advocates and commentators. Materials that are publicly available are highly generalized and aspirational. For example the Victorian Department of Health policy document regarding medical treatment of intersex minors acknowledges controversy and contrasts current approaches to historical practices which constructed intersex as a medical emergency:

Emphasis is now more commonly placed on establishing an accurate diagnosis and making considered decisions about any medical or surgical treatment for intersex conditions where patients cannot give full informed consent.<sup>516</sup>

Rather than providing data, the publications by healthcare institutions outline principles and values which are couched in aspirational rhetoric and the information is highly curated and abridged.<sup>517</sup> Another obstacle to obtaining reliable information about current practices is that there are wide discrepancies between different hospitals, different healthcare regions and different states.<sup>518</sup> Despite the production of various consensus statements, there seems to be

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<sup>515</sup> The impact of hormone treatments is also relevant but the complexity of the issues puts them beyond the scope of this paper.

<sup>516</sup> *Decision-Making Principles for the Care of Infants, Children and Adolescents with Intersex Conditions* Department of Health and Human Services, Victoria, 2.

<sup>517</sup> See, for example, *ibid*; Ganka Douglas et al, 'Consensus in Guidelines for Evaluation of DSD by the Texas Children's Hospital Multidisciplinary Gender Medicine Team' (2010) 2010(1) *International Journal of Pediatric Endocrinology*.

<sup>518</sup> Senate Committee Report, (n 2).

little consensus in practice about what procedures are necessary and appropriate, and the timing of those procedures.

Other significant factors which may dictate differences in how people with variations of sex characteristics are medically treated include the era in which they are born, the extent to which their visible anatomy challenges the sex binary, and the profiles of treating specialists.<sup>519</sup> In 2013, the Community Affairs Reference Committee of the Australian Senate, following a lengthy inquiry process, published a report entitled 'Involuntary or Coerced Sterilisation of Intersex People in Australia' (Senate Committee Report).<sup>520</sup> The Senate Committee Report noted that a survey conducted among specialists in Australia 'highlights a great diversity of opinions amongst doctors, and some extreme geographical variation in medical practice.'<sup>521</sup> IHRA submitted that '[f]actors driving this variability may include multidisciplinary team leadership, clinician specialism, age and gender, personal dispositions and beliefs about concepts of normality, sex and gender.'<sup>522</sup>

The point of many contentious medical interventions on intersex bodies such as genital 'normalising' surgery and hormone therapy is to 'cure' the intersex variation by making it invisible and to bolster a child's sex assignment by shaping the body to conform to an appearance consistent with that assignment.<sup>523</sup> Since these medical interventions 'cure' the disorder, or at least masks its appearance, hospitals, practitioners, health departments and other organisations do not keep records which identify patients as intersex or procedures as

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<sup>519</sup> Ibid 55 fn 87; Phyllis W Speiser et al, 'Congenital Adrenal Hyperplasia Due to Steroid 21-Hydroxylase Deficiency: An Endocrine Society Clinical Practice Guideline' (2010) 95(9) *The Journal of Clinical Endocrinology & Metabolism* 4133.

<sup>520</sup> Senate Committee Report, (n 2).

<sup>521</sup> Ibid 67-68 (references omitted from quote)

<sup>522</sup> Intersex Human Rights Australia, 'Submission to the Australian Law Reform Commission on the Review of the Family Law System - Issues Paper' (2018),

<sup>523</sup> See, generally, Karkazis (n 52); Kessler (n 453); Feder (n 451); Davis (n 34)

intersex-related. The laws of privacy are invoked to prevent even de-identified information from being distributed or published.<sup>524</sup> There are no Australian databases relating to intersex treatments or to specific diagnostic categories.

The research and published information that does exist – in the form of journal articles, for example - is often problematic. Information published in journal articles is highly medicalised and often lacks independence. Writing in 2004, Creighton et al comment

There are very few studies of long-term outcomes that are not by the original surgeons. Follow-up studies of intersex adults have also been hampered by the widespread policy of nondisclosure, which leaves some adults ignorant of their true diagnosis, and absent from outcome studies<sup>525</sup>

In 2012, Callens stated that 'long-term studies on psychosexual functioning and cosmetic outcome on which to base treatment and counseling are scarce.'<sup>526</sup> Another article from 2012 by Schober et al concludes that 'While these summaries include pertinent information, it is clear that outcomes studies lack the necessary detail to base further recommendations upon, and further studies are needed.'<sup>527</sup> In 2015, Baratz and Feder argued

There is only anecdotal evidence on the question of the timing of surgery and this evidence has been employed both to support and to challenge the assumption of the benefits of early surgery.<sup>528</sup>

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<sup>524</sup> Senate Committee Report (n 2)

<sup>525</sup> S M Creighton, 'Long-term outcome of feminization surgery: the London experience' (2004) 93(s3) *BJU International* 44, 44.

<sup>526</sup> Nina Callens et al, 'Long-Term Psychosexual and Anatomical Outcome after Vaginal Dilation or Vaginoplasty: A Comparative Study' (2012) 9(7) *Journal of Sexual Medicine* 1842.

<sup>527</sup> Justine Schober et al, 'Disorders of sex development: Summaries of long-term outcome studies' (2012) 8 *Journal of Pediatric Urology* 616, 623.

<sup>528</sup> Arlene Baratz and Ellen Feder, 'Misrepresentation of Evidence Favoring Early Normalizing Surgery for Atypical Sex Anatomies' (2015) 44(7) *The Official Publication of the International Academy of Sex Research* 1761, 1761.



Their article debunks claims by Meyer-Bahlberg<sup>529</sup> that most intersex people favour early genital surgery and they conclude that

closer evaluation of actual research methods and data can expose flawed and misleading conclusions that require more extensive interpretation and critical debate.<sup>530</sup>

A meta-analysis published in 2018 identified only 11 published papers reporting on long term outcomes for 'feminizing genitoplasty' since 2000.<sup>531</sup> The complex results, suggesting both positive and negative responses to genital surgeries in childhood, led the researchers to conclude that there is insufficient evidence to justify delay to surgeries. They note that very few studies have recorded the opinions of the patients as to outcomes. Accounts of lived experience from intersex adults are often dismissed as anecdotal and unscientific.<sup>532</sup>

The Senate Committee Report recommended that 'the Commonwealth Government support the establishment of an intersex patient registry and directly fund research that includes a long-term prospective study of clinical outcomes for intersex patients.'<sup>533</sup> However, that recommendation has not been implemented in Australia. Accordingly there is no register or other record of the number of intersex births, interventions or outcomes. This has been an ongoing problem in terms of research and follow-up of post-surgical outcomes.

These obstacles mean that gathering relevant and current data about clinical practices in Australia is a challenge.

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<sup>529</sup> Meyer-Bahlburg, H F L 'Psychoendocrinology of congenital adrenal hyperplasia' in M I New, O Lekarev, A Parsa, B O'Malley, & G D Hammer (eds.), *Genetic steroid disorders* (2014, Elsevier) 285–300.

<sup>530</sup> Baratz and Feder, (n 528) 1763.

<sup>531</sup> Lisieux Eyer Jesus, 'Feminizing genitoplasties: Where are we now?' (2018) 14(5) *Journal of Pediatric Urology* 407.

<sup>532</sup> See, for example, Meyer-Bahlburg et al, (n 529).

<sup>533</sup> Senate Committee Report, (n 2) 113 [6.11].

The lack of evidence about long-term outcomes of surgery and other interventions such as sterilisation, whether undertaken early or late, is cited as a ubiquitous concern in the medical and non-medical literature. For example, a clinician group submitted

There is limited evidence reporting long-term outcomes of early surgical management for reasons of appearance. The few outcome studies reported have conflicting results of good and poor outcomes (cosmetic, sexual or psychological).<sup>534</sup>

Unfortunately, the lack of evidence is often used as a reason to continue current practices. The protocols and treatment regimens are assumed to be effective and positive, and there are frequent comments that current practices should be continued unless or until there is evidence to show them to be harmful or ineffective:

All participants in this survey who had genital reconstructive surgery had it in infancy or early childhood. In the absence of compelling evidence that deferred surgery would have yielded better outcomes, these results support continuation of the practice of early genital reconstructive surgery for ambiguous genitalia, provided that every attempt has been made to reach a definitive [determination of the cause].<sup>535</sup>

This reversal of the requirement for evidence-based medicine is rather extraordinary, but not unusual in this field. In a submission to the Senate Committee, APEG argued that timing of genital 'normalising' surgery was a matter of debate:

International medical guidelines exist to define the level of genital ambiguity at which surgery is indicated, however the guidelines state that the optimal timing of surgery remains debatable. This is because there is a lack of strong evidence to either support or refute specific recommendations on timing.<sup>536</sup>

The lack of transparency and record keeping make follow-up research difficult, particularly for researchers who are not involved in clinical treatment. This dampens the research field and

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<sup>534</sup> Australian Paediatric Endocrine Group, Submission No 88 to Senate Standing Committees on Community Affairs, Parliament of Australia, *Involuntary or coerced sterilisation of intersex people in Australia* (27 June, 2013), 4 ('APEG Submission to Senate Committee').

<sup>535</sup> Garry Warne, Sonia Grover, John Hutson and others, 'A long-term outcome study of intersex conditions' (2005) 18(6) *Journal of Pediatric Endocrinology and Metabolism* 555, 566.

<sup>536</sup> APEG submission to Senate Committee (n 534) 5.

contributes to the ongoing lack of evidence, which in turn is used to justify continued practices that lack an evidentiary basis.

Furthermore, researchers don't look for evidence that current practices are harmful. As Jordan-Young notes,

In the relatively few studies in which researchers do consider the effect of treatment on psychosexual outcomes, they routinely assume that treatment can only limit or counteract the effects of the illness or of the early hormone exposures. That is, treatment, in their view, can only help patients be more like normal, healthy comparison groups.<sup>537</sup>

Evidence of poor outcomes is re-interpreted as evidence of outmoded surgical technique, outmoded treatment protocols, problems inherent in the intersex variation itself, or the complaints of isolated and disenfranchised individuals.

Instead of relying on what the medical community says about its own values and practices, and since the anecdotal accounts from intersex people are dismissed as an unreliable source of information, it is necessary to search out data from a range of available sources to build up a picture of current practices.

One source of information is in clinical journal articles which report on treatment or trial outcomes. Other sources that have yielded data include information from hospitals in press reports. For example, in a newspaper article from 2013 a leading specialist from Royal Children's Hospital in Melbourne stated that approximately 10 to 15 children were given genital normalising surgery each year.<sup>538</sup> A non-clinical peer-reviewed article published in 2016 stated that in a two-year period in Sydney, 13 cases were referred to a clinical forum regarding

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<sup>537</sup> Jordan-Young, (n 1) 245.

<sup>538</sup> Andrew Bock 'It Takes More than Two', *The Age* (Melbourne), 20 June 2013, 18

proposed surgical intervention.<sup>539</sup> In a submission to the religious freedoms inquiry, Morgan Carpenter mined data provided by the Australian Institute of Health and Welfare to provide information about genital surgeries performed on intersex girls.<sup>540</sup>

Applications to the Australian Family Court for authorisation of medical interventions that fall within the special medical jurisdiction are another source of data. As noted in chapter 7, to date only 8 applications have been made, but each case provides some insight into clinical attitudes and treatment practices. Also the submissions to and final report of the 2013 Senate Community Affairs References Committee inquiry on the involuntary or coerced sterilisation of intersex people yield relevant data.<sup>541</sup>

It is important that claims of therapeutic justification are thoroughly tested. This is because there has long been a tendency by medical professionals to tangle therapeutic and non-therapeutic considerations. Purportedly clinical decisions are imbricated with non-medical values as social, political and cultural considerations and are cloaked in medical, health-related or clinical justifications. This means that those considerations and values are constructed as scientifically proven and are largely unexamined. As noted in the Senate Committee Report:

The committee is aware of a risk ... that clinical intervention pathways stated to be based on probabilities of cancer risk may be encapsulating treatment decisions based on other factors, such as the desire to conduct normalising surgery ... Treating cancer may be regarded as unambiguously therapeutic treatment, while normalising surgery may not. Thus basing a decision on cancer risk might avoid the need for court oversight in a way that a decision

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<sup>539</sup> M O'Connor, 'The Treatment of Intersex and the Problem of Delay: The Australian Senate Inquiry into Intersex Surgery and Conflicting Human Rights for Children' (2016) 23(3) *Journal of Law and Medicine* 531.

<sup>540</sup> Morgan Carpenter, 'Submission to the Expert Panel on Religious Freedoms' *Religious Freedom Review* (February 2018).

<sup>541</sup> For example, Australian Pediatric Endocrine Group identified several situations in which surgical intervention would be recommended: 'Indications for surgery in DSD involve management of high cancer risk in the testes or ovaries, management of dysfunctional urine flow, creation of a vagina, or surgery for the purpose of appearance including reduction of an enlarged clitoris or repair or construction of a urinary outlet to the end of the penis' APEG submission to Senate Committee (n 534) 3.

based on other factors might not. The committee is disturbed by the possible implications of this.<sup>542</sup>

The issues around medical normalisation are not merely medical or biological issues, but have profound social and psychological meanings and significance. This form of encapsulation, whereby non-therapeutic considerations are entangled and interwoven with factors that appear unambiguously medical, is common within the clinical literature and also emerges in the legal discourse including the case law.<sup>543</sup>

### 4.5.2 Genital surgery

A major objection to current medical practices is the practice of performing genital ‘normalising’ surgery on intersex children, particularly when surgeries are performed early ie before the age of 2 years. Genital normalising surgery on minors is performed on the basis of parental consent.

The most common and contentious forms of genital surgery performed on intersex children are clitoral reduction (to reduce the size of the clitoris to be more consistent with typical clitoral size) or resection (to reposition the clitoris further back under the skin of the clitoral hood), vaginoplasty (to create a vagina or lengthen a foreshortened vagina), labioplasty (to modify, usually to reduce in size, the labia), correction of hypospadias, and gonadectomy (surgical removal of the testes or ovaries). Gonadectomies are performed to address putative cancer risks,<sup>544</sup> to normalise the appearance of genitals, and to prevent influx of androgens at puberty.<sup>545</sup> Surgeries are performed to make the genitals appear more consistent with the

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<sup>542</sup> Senate Committee Report, (n 2) 91-92.

<sup>543</sup> See, for example, *Re Carla* (n 493) where the purported cancer risk is cited as the basis for the procedure, but an extensive range of non-medical considerations are constructed as interlinked with the gonadectomy.

<sup>544</sup> See for example *Re Carla* (n 493)

<sup>545</sup> The issue of cancer risk is not addressed in this thesis but is strongly contested. See, for example, Karkazis, (n 53; Intersex Human Rights Australia Australia, *Submission to the Australian Human Rights Commission Inquiry on*

typical genitals of the assigned sex,<sup>546</sup> or to improve function. Both justifications need to be unraveled and interrogated.

#### 4.5.2.1 Aims of genital surgery

The stated aims of genital surgery have changed since the days of optimal gender theory, though the actual practice in terms of early genital surgery seems to have changed very little. As Karkazis describes, ‘No longer explicitly linked to gender-identity formation, “psycho-social well-being” is newly tied to the importance of looking normal.’<sup>547</sup> Under optimal gender theory ‘normalising’ genital appearance was central to the success of gender identity development because any ‘inconsistency’ between genital appearance and assigned gender would disrupt the development of a stable gender identity, particularly for boys. When optimal gender theory was discredited, the response from the medical profession was a gradual shift away from the justification that genital ambiguity would disrupt the development of a stable gender identity. Now the same procedures are grounded in the belief that it is vital for a child’s well-being that their genitals are surgically altered to appear more normal. The practice is now linked to different psychological needs, such as to avoid bullying. The underlying aims have not changed as much as the rhetoric would suggest. The practice and the timing of surgery seemingly have changed very little.

This is a continuing theme of current medical practices relating to intersex – the approach is largely unchanged, but the reasoning behind the practices has shifted and transformed. Genital ‘normalisation’ surgery is no longer performed in order to quell parental distress, promote child/parent bonding and bolster a stable gender identity. It is now performed to promote the child’s self-esteem, to alleviate gender confusion and to prevent bullying. Gonadectomy is no longer performed to prevent masculinization. It is now performed to address cancer risk.<sup>548</sup>

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*protecting the rights of people born with variations in sex characteristics in the context of medical interventions*, (2018).

<sup>546</sup> APEG submission to Senate Committee (n 534)

<sup>547</sup> Karkazis, (n 53) 135.

<sup>548</sup> See discussion of this issue in section 4.5.4

Early timing is no longer necessary to prevent traumatic castration memories or destabilizing inconsistency between gender and anatomy, but to address cancer risk as early as possible.

Children with ‘ambiguous’ genitalia are no longer assigned female to make surgical ‘normalisation’ possible, but to promote stable gender identity.

The Consensus Statement of 2006 provides the following discussion of genital surgeries:

Surgery should only be considered in cases of severe virilization (Prader III–V) and be performed in conjunction, when appropriate, with repair of the common urogenital sinus. Because orgasmic function and erectile sensation may be disturbed by clitoral surgery, the surgical procedure should be anatomically based to preserve erectile function and the innervation of the clitoris. Emphasis is on functional outcome rather than a strictly cosmetic appearance. It is generally felt that surgery that is performed for cosmetic reasons in the first year of life relieves parental distress and improves attachment between the child and the parents; the systematic evidence for this belief is lacking.<sup>549</sup>

Despite the recommendation that genital surgery should be confined to ‘cases of severe virilization’ there is no evidence that this approach has been adopted in practice. Creighton et al report that proponents of feminizing genitoplasty in infancy cite the following as reasons to operate:

- A more stable development of gender identity
- A better psychosexual and psycho-social outcome
- A relief of parental anxiety
- Provision of a vaginal introitus for psychological relief
- Menstruation and intercourse in adolescence and adulthood<sup>550</sup>

Roen recounts similar justifications for genital normalising surgery:

- The child needs visible evidence that is consistent with broad understandings about sexual anatomy: a girl does not have a phallic structure, a boy does have a phallic structure. This is seen as important for their psycho-social/gender identity development.
- The child will face humiliation and bullying if the genitalia look noticeably atypical.
- The parents will be traumatized at the sight of atypical genitalia.

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<sup>549</sup> Lee et al, (n 19) e491.

<sup>550</sup> Creighton, (n 525) 44

- The parents will struggle to explain the atypical genitalia to babysitters and family members.
- The child may be subject to sexual abuse if their genitalia are not 'corrected'.
- The boy needs to be able to urinate while standing: this is seen as important for his psycho-social development; his being accepted by others as a boy; his taking up a masculine gender identity.
- Some argue that it is better to make the surgical change early in life so that (i) the child won't remember; (ii) the child will set off from the start on an unambiguous gender path.<sup>551</sup>

These justifications are not distinctly different from the reasons given during the era of optimal gender theory. Many still focus on concerns about parental anxiety and bonding and assume an improvement in psycho-social and psychosexual outcomes, for reasons which aren't clearly articulated. Other sources simply assume that genital normalisation is psychologically beneficial and focus on the narrow surgical aims. For example, Callens et al note that 'The primary aim of surgery is to provide a female appearance of the masculinized genitalia and enabling tampon use and sexual intercourse later in adulthood.'<sup>552</sup> Lean et al state that 'The aim of clitoral surgery is to achieve normal clitoral morphology without compromising sexual function.'<sup>553</sup> According to Crouch et al the 'aims of surgery can be considered as: restoring normal anatomy; achieving a pleasing feminine appearance; preserving sensation and permitting normal sexual function; promoting normal psycho-social and psychosexual development; and preventing urological sequelae.'<sup>554</sup>

They later expand on this theme by commenting on the view that surgery will relieve parental distress

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<sup>551</sup> Roen, (n 417) 50

<sup>552</sup> Nina Callens et al, 'Do Surgical Interventions Influence Psychosexual and Cosmetic Outcomes in Women with Disorders of Sex Development?' (2012) 2012 *ISRN Endocrinology* 8, 8.

<sup>553</sup> W L Lean et al, 'Clitoroplasty: past, present and future' (2007) 23(4) *Pediatric Surgery International* 289, 289.

<sup>554</sup> Naomi S Crouch and Sarah M Creighton, 'Long-term functional outcomes of female genital reconstruction in childhood' (2007) 100(2) *BJU International* 403, 403.



The parents of children born with ambiguous genitalia are often understandably upset and anxious about the appearance of the genital area. A key factor in the timing of corrective surgery might therefore be the relief of parental anxiety. Also, surgery before the age of permanent memory ensures that the child is unaware of the ambiguity, contributing to the pressure for surgery in infancy.<sup>555</sup>

It seems that the reasons for performing early genital surgeries are complex and some are rarely made explicit.

#### 4.5.2.2 Genital appearance

A key aim of cosmetic is to improve genital appearance in the sense of making them look more 'normal'.<sup>556</sup> This aim assumes that there is a shared understanding of what 'normal' genitals look like, and that surgeons and other medical specialists have an objective and nuanced grasp of normal genital appearance. However, this does not seem to be the case. Firstly, there is enormous natural variation in genital appearance:

A British team of Jillian Lloyd and others measured variations in the dimensions of female genitalia in a small group of 50 women aged between 18 and 50 who did not have any medical condition affecting their genitals. Even in this very small sample, there was enormous variation in the size of genitalia, with the largest clitorises 700 per cent longer, and over 300 per cent wider, than the smallest; the largest labia minora 500 per cent longer, and 700 per cent wider, than the smallest; and with the longest vagina twice the length of the shortest. Despite this range, a recent reference work on surgery on intersex patients in infancy refers simply to creating 'a clitoris that is in the right position and of the right size', without any elaboration, or discussion of what that size might be.<sup>557</sup>

The unquestioned assumption that there is a consensus about what genitals should and must look like in order to express gender authentically is profoundly misplaced, as there is no

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<sup>555</sup> Ibid 404.

<sup>556</sup> See discussion at 4.5.2.1 above.

<sup>557</sup> Senate Committee Report, (n 2) 65

standard objective measure for cosmetic perceptions of “normal” male or female genitals.<sup>558</sup> As the Senate Committee commented, “what little research exists regarding 'adequate' or 'normal' genitals, particularly for women, raises some disturbing questions.”<sup>559</sup>

The enculturated nature of these supposedly empirical judgements about normality is nicely captured in a quote from a pediatric endocrinologist ‘If we’re saying genital surgery is for normalization purposes, I would ask the surgeons how many penises they’ve reduced to make them more normal in size.’<sup>560</sup> Where surgery is performed to reduce the size of the clitoris, surgeons do not have reliable or meaningful standards by which to determine whether the clitoris is ‘too large’. ‘In the medical literature, authors frequently refer to an enlarged clitoris without specifying its actual size.’<sup>561</sup> Karkazis reports that the surgeons she interviewed in her research judged the need for clitoral reduction based on a visual assessment alone. Such assessments are made simply on the basis of personal aesthetic judgment.<sup>562</sup>

Personal traits of the surgeons have a significant influence on attitudes to ‘normal’ female genital appearance, according to a study by Reitsma et al.<sup>563</sup> For example, medical specialty (with cosmetic surgeons being significantly more negative about larger labia than obstetricians and gynecologists) and gender (with women doctors being less inclined to recommend genital surgery to reduce labia size than their male counterparts), will have a major impact on doctors’ opinions about the need for and extent of cosmetic genital surgery. Furthermore, researchers

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<sup>558</sup> See, for example, discussion in Karkazis, (n 52) particularly chapter 5

<sup>559</sup> Senate Committee Report, (n 2) 65.

<sup>560</sup> Karkazis, (n 52) 140.

<sup>561</sup> Karkazis, (n 52) 150.

<sup>562</sup> Karkazis, (n 52) 151.

<sup>563</sup> Welmoed Reitsma et al, 'No (Wo)Man Is an Island—The Influence of Physicians' Personal Predisposition to Labia Minora Appearance on Their Clinical Decision Making: A Cross-Sectional Survey' (2011) 8(8) *The Journal of Sexual Medicine* 2377.

have found that the size of the clitoris is usually misrepresented in leading anatomy textbooks, including the well-known *Grey's Anatomy*.<sup>564</sup> As Lloyd et al note,

There are demonstrable shifts in the scientific representation of female anatomy and it is notable that even some recent text books of anatomy do not include the clitoris on diagrams of the female pelvis.<sup>565</sup>

In the same way that surgeons do not judge penis size with concern that it is too large to have a normal appearance, concerns about clitoral appearance never focus on a clitoris that is too small. Considering that total clitoral amputation (clitoridectomy) was deemed an appropriate cosmetic correction for an enlarged clitoris up until the 1970s,<sup>566</sup> it seems that a clitoris cannot be too small to be considered 'normal.'

A key factor in decision-making for intersex children has been (and arguably still is) 'adequate penis size'. When considering which gender a child should be assigned to, a major consideration was whether the phallus is 'large enough' to be an adequate penis. Considerations of genital appearance impact not only on surgical decisions, but decisions about likely gender assignment. Zillen et al provide a very lucid account of the impact of this approach, taken together with the tacit hetero-normative assumptions adopted when assessing sexual function:

The emerging paradigm resulted in what is now called a "bias toward feminization", on the assumption that children with female reproductive organs should be feminized to enable motherhood, but that "inadequate males" and children with mixed sex characteristics should be feminized if expected to suffer embarrassment as males, difficulty in urinating standing, and having penetration difficulties in sex. The goal of enabling "penile-

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<sup>564</sup> H E O'Connell et al, 'Anatomical relationship between urethra and clitoris' [1892] (1998) 159 *Journal of Urology* 1892.

<sup>565</sup> Lloyd, Jullian et al, 'Female Genital Appearance: 'Normality' Unfolds' (2005) 112 *BJOC: An International Journal of Obstetrics and Gynaecology* 643, 643.

<sup>566</sup> Kessler, (n 453); Lean et al, (n 553); Richard Hurwitz, 'Feminizing Surgery for Disorders of Sex Development: Evolution, Complications, and Outcomes' (2011) 12(2) *Current Urology Reports* 166.

vaginal” intercourse has also reflected a heterosexual preference for the child sexually without regard to the child’s actual sexual orientation or desires.<sup>567</sup>

Surgical innovations and technical developments become important as surgeons claim to be able to cosmetically fashion a convincing-looking vagina and successfully cut down the phallus to a ‘correct’ size for a clitoris (though such claims need to be regarded with skepticism, as discussed below). On the other hand, surgeons cannot construct a penis that is either convincing looking or functional according to their own judgements. Limits to surgical techniques often dictate the decision on whether to assign a child male or female,<sup>568</sup> which is a classic example of the tail wagging the dog.

Clinicians claim that they no longer adhere to the requirements of an ‘adequate’ penis when making decisions about gender assignment. This claim is partially supported by a meta-analysis from 2014 comparing the rate of assignment to the male gender in cases of PAIS, Disorder of Gonadal Development and Disorder of Androgen Synthesis between three cohorts separated by time. The first cohort were born before 1990, the second 1990-1999 and the third after 1999. The proportion of 46,XY children raised as boys was 35%, 41% and 68% respectively.<sup>569</sup> This study reported on data from Europe. A survey of pediatric urologists from 2014 reported an increasing preference for male sex assignment, especially among those clinicians who had practiced urology for a shorter duration.<sup>570</sup> This indicates a cultural shift that is heartening. However, it also adds support for the claim that medical treatment and decision-making for people with intersex variations is idiosyncratic and depends on variables such as geographic location and age and experience of leading specialists.

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<sup>567</sup> K Zillén, J Garland and S Slokenberga, *The Rights of Children in Biomedicine: Challenges posed by scientific advances and uncertainties* (Report to Committee on Bioethics of the council of Europe, 2017) 42

<sup>568</sup> Ursula Kuhnle and Wolfgang Krah, 'The impact of culture on sex assignment and gender development in intersex patients' (2002) 45(1) *Perspectives in Biology and Medicine* 85. Fisher et al (n 307).

<sup>569</sup> Kolesinska et al, (n 492).

<sup>570</sup> Cited in *ibid* e713.

### 4.5.2.3 Outcomes of genital surgery – appearance, function, sexual pleasure

Claims that surgery creates genitals that look ‘normal’ should be taken with a grain of salt.<sup>571</sup> Creighton notes that there are no accepted standard methods to assess cosmetic outcome of surgery and many post-surgical studies do not provide an assessment of cosmetic outcome. In reviewing data on outcomes, Creighton et al found that ‘[w]here cosmetic appearance has been noted, it is generally poor, with reports varying from 28 to 46% having an unsatisfactory appearance after clitoral surgery.’<sup>572</sup> Other studies report relatively positive cosmetic outcomes,<sup>573</sup> with poor cosmetic outcome reported in only 7% of participants in at least one study.<sup>574</sup> In studies where both medical specialists and participants rated the appearance of their genitals ‘Gynecologists scored the appearance of the genitalia on average higher than the patients’<sup>575</sup> which perhaps reflects some of the lack of agreement about what genitals should look like. It is consistent with the view of experts that

Doctors tend to overestimate how good their treatments are and underestimate the harms that come from them. Surgeons are often faced with patients in pain and, other than surgery, have little else to offer except continued non-operative treatment, reassurance and time.<sup>576</sup>

The outcomes in terms of function are more concerning. A very recent study looked at surgical outcomes in 57 patients out of a total of 92 intersex children about 1 year following surgery and

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<sup>571</sup> N K Alizai et al, 'Feminizing Genitoplasty For Congenital Adrenal Hyperplasia: What Happens At Puberty?' (1999) 161(5) *The Journal of Urology* 1588; Creighton, (n 525).

<sup>572</sup> Creighton, (n 526) 44.

<sup>573</sup> Avi Baskin et al, 'Post-operative complications following feminizing genitoplasty in moderate to severe genital atypia: Results from a multicenter, observational prospective cohort study' (2020) 16(5) *Journal of Pediatric Urology* 568; Verena Schönbucher, Katinka Schweizer and Hertha Richter-Appelt, 'Sexual Quality of Life of Individuals With Disorders of Sex Development and a 46,XY Karyotype: A Review of International Research' (2010) 36(3) *Journal of Sex & Marital Therapy* 193.

<sup>574</sup> Hurwitz, (n 566).

<sup>575</sup> Callens et al, (n 552) 4.

<sup>576</sup> Denise O'Connor, Ian Harris and Rachelle Buchbinder, 'Needless Procedures: Knee Arthroscopy Is One of the Most Common but Least Effective Surgeries' (2018) *The Conversation* < <http://theconversation.com/needless-procedures-knee-arthroscopy-is-one-of-the-most-common-but-least-effective-surgeries-102705>>.

found that 50 (88%) had undergone early (age 2 years or younger) genital surgeries.<sup>577</sup> All had vaginoplasty and most (76%) had clitoroplasty. Out of those 50 girls, 18% had post-surgical complications, with 14% requiring further surgery as a result of the complications. Both parents and surgeons rated the cosmetic outcomes as good. However, the study reported that at least one child would require further surgery at puberty, and there were high rates of vaginal stenosis (narrowing and shortening of the vagina) across the cohort.

Poor outcomes in terms of function and need for further surgeries are frequently reported. Callens et al 'studied 91 women with a DSD. Feminizing surgery was performed in 64% of the women; in 60% of them, further surgery in puberty was needed after a single-stage procedure.'<sup>578</sup> A later study reported that 18% percent of patients experienced post-surgical complications with 7 (14%) requiring further surgery,<sup>579</sup> and reported rates of pain, discomfort and dissatisfaction with surgical outcomes are lower in more recent studies.<sup>580</sup> However, reports are mixed and continue to include significant negative outcomes, including the need for further surgeries.

Identifying genital function reveals widespread sexist and hetero-normative assumptions that underpin scientific, medical and cultural perspectives. I have already noted the extent to which supposedly objective biomedical assessments of genital function in respect to hypospadias diagnosis and repair are infected with tacit social and cultural assumptions. Medical literature

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<sup>577</sup> Baskin et al, (n 573). Many studies, including this one, report on post-operative outcomes before the patient has reached adulthood.

<sup>578</sup> Callens et al, (n 552) 1.

<sup>579</sup> Baskin et al, (n 573).

<sup>580</sup> K J Bernabé et al, 'Preliminary report: Surgical outcomes following genitoplasty in children with moderate to severe genital atypia' (2018) 14(2) *Journal of Pediatric Urology* 157; Grzegorz Kudela, Aneta Gawlik and Tomasz Koszutski, 'Early Feminizing Genitoplasty in Girls with Congenital Adrenal Hyperplasia (CAH)--Analysis of Unified Surgical Management' (2020) 17 *International Journal of Environmental Research and Public Health*; Anna Nordenström et al, 'Sexual Function and Surgical Outcome in Women with Congenital Adrenal Hyperplasia Due to CYP21A2 Deficiency: Clinical Perspective and the Patients' Perception' (2010) 95(8) *The Journal of Clinical Endocrinology & Metabolism* 3633.

on genital function, including sexual function, is riven with heteronormative values. For example, one important criteria of the success of vaginoplasty is whether the vagina is the right size and shape to receive an erect penis. Crouch et al report that 'A further study suggested that the outcome was adequate purely if successful penetrative intercourse could take place, with no information on pleasure or sensitivity.'<sup>581</sup> Another study concluded that the surgical outcomes were successful if the vagina was large enough to receive a tampon, even if sexual intercourse was not possible, let alone pleasurable.<sup>582</sup> As Fausto-Sterling comments, 'penetration in the absence of pleasure takes precedence over pleasure in the absence of penetration.'<sup>583</sup>

In the early days of genital normalising surgery, surgeons often simply performed a clitoridectomy - removal of the clitoris - because one clinical view was that the clitoris had no function.<sup>584</sup> Since the 1950s, various techniques have been introduced to reduce the impact on clitoral sensation.<sup>585</sup> However, Hurwitz provides some chilling details that show that the practice of clitoridectomy continued for a long time following the development of less damaging techniques

In 1966, Robert Gross, father of American pediatric surgery, reported on his experience with 47 clitorectomies performed in children with various sexual abnormalities. He felt that 1 year of age was the ideal time for this procedure. He was aware of newer clitoral preservation techniques but felt... "that these half-way measures are much less satisfactory than complete clitorectomy". Clitoral amputations were common until the mid-1970s and persisted even into the early 1980s.<sup>586</sup>

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<sup>581</sup> Crouch (n 527) 404.

<sup>582</sup> Senate Committee Report, (n 2).

<sup>583</sup> A Fausto-Sterling, 'How to Build a Man' in M Berger, B Wallis and S Watson (eds), *Constructing Masculinity* (Routledge, 1995) 127-134, 131, quoted in Karkazis, (n 52) 138.

<sup>584</sup> Lean et al, (n 553).

<sup>585</sup> Ibid 290.

<sup>586</sup> Hurwitz, (n 566) 167.

As Karkazis comments, 'Not removing the clitoris entirely as in the "old days" is read as a technical improvement and given as a reason to have faith in the excellence of today's surgical techniques.'<sup>587</sup> Evidence on outcomes following clitoral reduction or recission surgery is often negative. One study reports:

A complete inability to orgasm is rare in the healthy population, with only 7% of controls responding to question 14 of the GRISS that they always find it impossible to orgasm. However, seven (39%) of 18 of the sample who had had clitoral surgery answered that they always found it impossible to orgasm compared with none of those who had not had clitoral surgery.<sup>588</sup>

Poor outcomes are also reported in other studies.<sup>589</sup> For example, in a retrospective study of 44 patients who had undergone genital surgery in childhood;

Cosmetic result was judged as poor in 18 (41%) of these patients. 43 (98%) of 44 needed further treatment to the genitalia for cosmesis, tampon use, or intercourse. 23 (89%) of 26 of genitoplasties planned as one-stage procedures required further major surgery.<sup>590</sup>

Studies of sexual function have shown reduced sensitivity and compromised sexual function of both clitoris and vagina following genital surgeries.<sup>591</sup> As Zillen et al note, 'repeated systematic reviews of evidence have found no quality data confirming their safety and benefits for each affected child.'<sup>592</sup>

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<sup>587</sup> Karkazis, (n 52) 136.

<sup>588</sup> Catherine L Minto et al, 'The effect of clitoral surgery on sexual outcome in individuals who have intersex conditions with ambiguous genitalia: A cross-sectional study' (2003) 361(9365) *The Lancet* 1252, 1256.

<sup>589</sup> Crouch and Creighton, (n 554); Callens et al, (n 552).

<sup>590</sup> Sarah M Creighton, Catherine L Minto and Stuart J Steele, 'Objective cosmetic and anatomical outcomes at adolescence of feminising surgery for ambiguous genitalia done in childhood' (2001) 358(9276) *The Lancet* 124, 124.

<sup>591</sup> N S Crouch et al, 'Genital sensation after feminizing genitoplasty for congenital adrenal hyperplasia: a pilot study' (2004) 93(1) *BJU International* 135; Minto et al, (n 588); Schönbucher, Schweizer and Richter-Appelt, (n 573); Stikkelbroeck et al, (n 36).

<sup>592</sup> Zillén, Garland and Slokenberga, (n 567) 40.



The claim by clinicians that negative outcomes are outdated and relate to earlier surgical techniques has been made regularly for over a decade. For example, Roen noted in 2008 that ‘a more careful reading of clinical literature will tell us that poor outcomes in clinical studies have been reported over a period of at least 30 years’<sup>593</sup> and Crouch et al made the same point in 2004:

It is often argued that the results of genital surgery carried out 15 or 20 years ago should be interpreted cautiously. ... We are unaware of any data which show that the outcome is improved with modern techniques.<sup>594</sup>

The Senate Committee considered and rejected claims that improvements in surgical techniques had addressed problems of poor outcome of surgery

for most forms of intersex, the committee was not presented with evidence to clearly indicate that outcomes are dependent on the era of medical procedure of the specific treatment administered, nor that those procedures responsible for poor outcomes are no longer administered. In some cases, these claims have been directly rebutted by other studies.<sup>595</sup>

To date, law has failed to monitor and regulate the practice of cosmetic genital normalising surgeries on minors. In several cases, including *Re Carla*,<sup>596</sup> Australian Family Court judges have noted without adverse comment evidence that such practices are occurring without judicial oversight. This failure to condemn the medical practice of performing procedures which arguably fall directly within the scope of the Special Medical Jurisdiction and therefore are beyond the scope of parental consent is a strong indication that the Family Court judiciary have been captured within the medical paradigm. The Australian Family Court should be condemning these practices and ensuring that they are not performed until the minor is able to consent.

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<sup>593</sup> Roen, (n 417) 9.

<sup>594</sup> Crouch et al, (n 591) 137.

<sup>595</sup> Senate Committee Report, (n 2) 55.

<sup>596</sup> (n 493)

### 4.5.3 'Once and for all' treatments

One aspect of surgical and other medical interventions on intersex people is the extent to which surgeries, including 'one-stage' treatments, have to be repeated. As Gina Wilson has argued, '[t]hat "cure" offered by the medical establishment takes the form of surgery often followed by more surgery and a lifetime of hormonal reinforcement.'<sup>597</sup> Many genital surgeries are described as one-stage. Crouch et al comment, 'The term 'one-stage' procedure in childhood implies that no further surgery should be necessary to achieve a good anatomical outcome.'<sup>598</sup> The evidence indicates that a large percentage of genital surgeries, including 'one-stage' procedures, require further surgery at a later date to correct problems. Callens et al reported that, of the 64% of the cohort who had had feminizing genital surgery, 60% of them needed resurgery in puberty after a single-stage procedure.<sup>599</sup> Creighton et al report that in one study, 98% of patients required repeat surgeries.<sup>600</sup>

A similar rate of repeat surgeries is reported in cases of hypospadias. 'The risks of "hypospadias repair" surgeries include wounds opening up on the penis (fistulas), scar tissue building up inside the urethra (stenosis), chronic pain at the surgical site, and chronic infections.'<sup>601</sup> The average number of treatments following various hypospadias repair surgeries is around 4 operations, sometimes as high as 7 operations, depending on the severity of the hypospadias and the particular surgical method used.<sup>602</sup>

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<sup>597</sup> Gina Wilson, 'Equal Rights for Intersex People' (2013) 10 *The Equal Rights Review* 133, 137.

<sup>598</sup> Crouch and Creighton, (n 554) 404

<sup>599</sup> Callens et al, (n 552).

<sup>600</sup> Creighton, Minto and Steele, (n 590) 124.

<sup>601</sup> Alice Dreger, 'Do you have to pee standing up to be a real man?' (2014) *Pacific Standard, the Science of Society*.

<sup>602</sup> A Bracka, 'A long-term view of hypospadias' (1989) 42(3) *British Journal of Plastic Surgery* 251.

Vaginoplasty, whereby a vagina is surgically constructed or lengthened also frequently requires repeat surgery – sometimes more than one follow up surgery. One study reports that 40% of participants who had vaginoplasty needed resurgery,

showing that these procedures carry significant long-term complications, including increased mucus production, vaginal prolapse, and strictures. The women who had had vaginal surgery acknowledged that it was not the “quick fix” (and also less emotionally involved) procedure that it initially appeared to be.<sup>603</sup>

Another study showed that out of 7 participants who had vaginoplasty (which was set up as single-stage surgery) 6 of the 7 - or 86% - required further surgery to treat vaginal strictures.<sup>604</sup>

Calleja-Aguis et al report

Medical doctors have reported unsatisfactory or poor cosmetic results in 28–46 percent of patients that underwent vaginoplasty, where 36–100 percent of women reported vaginal stenosis resulting in repeated surgery. This therefore leads to the frequent need of several revision surgeries in adolescence, even if the original procedure had been planned as a one-stage process.<sup>605</sup>

The same study notes that dilation regimes sometimes raise profoundly negative feelings, including shame and distaste, and reinforce feelings of being different and this is affirmed in other research.<sup>606</sup> In a survey of intersex people in Australia, many reported a negative experience of dilation: ‘particularly when engaged in by young people who were not sexually active; which many described as painful, emotionally fraught, and nothing like the sexual acts they engaged in later on in life.’<sup>607</sup> Many childhood interventions are repeated in adolescence and into adulthood.

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<sup>603</sup> Callens et al, (n 526) 1849.

<sup>604</sup> Stikkelbroeck et al, (n 36).

<sup>605</sup> Calleja-Aguis, Jean et al, 'A review of the management of intersex' (2012) 31(2) Neonatal Network 97

<sup>606</sup> Callens et al, (n 526).

<sup>607</sup> Tiffany Jones et al, (n 35) 111

Repeat surgeries and medical interventions can have significant knock on effects for intersex people. In a survey of intersex people in Australia '[p]articipants were asked to comment on the impacts they had experienced from their surgeries/treatments. Of the 117 responses, a strong majority of 97 responses described one or more negative impacts (including 74 responses which described only negative impacts from interventions).'<sup>608</sup> Conversely, 'Only eleven participants (9%) commented on having had solely positive impacts from experiencing interventions. Of those participants, all were either adults at the time of the interventions related to sex presentation ... or had experienced necessary interventions around specific difficulties associated with their variation ...or interventions they had individually wanted.'<sup>609</sup> They reported negative impacts ranging from sexual problems to damaged family relationships to poor educational achievement and isolation at school as a result of frequently missing school.<sup>610</sup> The evidence of outcomes – good or bad - is scant, but the evidence that does exist does not support the continuation of surgical normalisation of genitals. As argued above, the Australian Family Court, under its special medical jurisdiction, has responsibility to monitor and evaluate the legitimacy of such practices, and to prevent them because they are not in the best interests of intersex minors.<sup>611</sup>

#### 4.5.4 Sterilization

A number of treatment protocols, including those identified in the Consensus Statement, recommend gonadectomies as part of the gender assignment of infants. Gonadectomies involve the removal of testes and/or ovaries. They remain standard procedure for many intersex variations in Australia, on the basis that they are life preserving. What was once characterised as vital for psycho-social adjustment is now constructed as a preventative measure for cancer. For example, Professor Garry Warne and Doctor Jacqueline Hewitt of the Department of Endocrinology and Diabetes, Royal Children's Hospital, Melbourne, Victoria, in a 2009 paper in the *Medical Journal of Australia* state that

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<sup>608</sup> Ibid 109.

<sup>609</sup> Ibid 111.

<sup>610</sup> Ibid.

<sup>611</sup> This issue is discussed further in Chapter 7.

Surgery forms a necessary part of the risk management strategy for preventing gonadal malignancy. In any DSD ['Disorder of Sex Development'] associated with a Y chromosome, there is an increased risk of germ cell cancer, especially when the testes are intra-abdominal (the risk of seminoma in partial androgen insensitivity is 50% for an intra-abdominal testis) or when there is gonadal dysgenesis.<sup>612</sup>

This estimate of 50%, expressed as relevant to all 46,XY variations, is at odds with much of the literature and is inconsistent with the 2006 Consensus Statement recommendations.<sup>613</sup> It is a highly controversial claim, and intersex advocacy bodies such as IHRA strenuously challenge its accuracy:

The risk assessment by Warne and Hewitt at Melbourne's Royal Children's Hospital is a grossly inflated generalisation that does not reasonably take international good practice, or individual circumstances, into account.<sup>614</sup>

There is much controversy surrounding the level of risk and the necessity and timing of gonadectomy for different variations, and cancer risk management has replaced other justifications for gonadectomy.

Fertility is generally considered a significant factor primarily if the child has female gonads, but not nearly as significant if the child has male gonads. In other words, fertility is more important for girls than for boys. Davis recounts the statement of a medical professional she interviewed:

Physicians tend to go toward the female sex of rearing [female gender assignment], because that has the potential for carrying a child. This is kind of the holy grail of being able to bear a child and carry a pregnancy. So that does tend to drive sex rearing towards female, if there's a uterus present.<sup>615</sup>

As Greenberg puts it, 'males have been defined by their ability to penetrate and females have been defined by their ability to procreate.'<sup>616</sup>

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<sup>612</sup> Garry L Warne and Jacqueline K Hewitt, 'Disorders of sex development: current understanding and continuing controversy' (2009) 190(11) *Medical Journal of Australia* 612.

<sup>613</sup> Lee et al, (n 19).

<sup>614</sup> Organisation Intersex International Australia Limited (OII), Submission No 23 Submission to Senate Standing Committees on Community Affairs, Parliament of Australia *Involuntary or Coerced Sterilisation of People with Disabilities in Australia* (15 February 2013), 9. ('OII Submission to Senate Committee').

<sup>615</sup> Davis, *Contesting Intersex: The Dubious Diagnosis* (n 28) 81.

<sup>616</sup> Greenberg, (n 131) 277.

The gendered nature of the right to reproduce reflects unexamined attitudes about what is necessary and meaningful to be authentically male or female. Fertility is viewed through a normative heterosexist lens whereby preservation of reproductive capacity is considered impossible or fanciful if, for example, a child has potentially fertile ovaries and is to be assigned male (or has potentially fertile testes and is to be assigned female). As Tamar-Mattis puts it, '[m]any doctors also do not see sterilizing surgeries as sterilization if the child would not have been fertile in the mode expected for the assigned gender.'<sup>617</sup> In such cases, the potential for fertility with the use of reproductive technology seems to be invisible to many clinicians, who would prefer to remove fertile gonads if they do not align with sex of assignment. This confusion is borne out in the judicial discussion of fertility in *Re Carla*, where Forrest J dismisses the idea of Carla's future fertility if her undescended testes are retained:

She has pre-pubertal testes. The medical expert evidence is that as her testes are pre-pubertal, sperm have not yet matured. No viable sperm can be extracted from those testes now. The evidence is that the testes could be cryopreserved after removal but that no technology exists to source viable mature sperm from cryopreserved pre-pubertal testes. The expert evidence is also that whilst it is conceivable that in the future, technology might be developed that would enable Carla to have a child that is genetically her own through stem cell manipulation, the prospects of the development of such technology are unknown at this stage.<sup>618</sup>

However highly we may value fertility in women and girls, it is clear that the reproductive capacity of intersex people, including women, is valued much less highly than achieving normative somatic presentation. The right of people with intersex conditions to reproduce is not defended with similar ferocity compared to the rhetoric defending the right of endosex people to reproduce. For example, some experts recommend orchidectomy (either in infancy or at puberty) to prevent 'undesirable' androgenisation (such as development of secondary sex

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<sup>617</sup> Anne Tamar-Mattis, 'Report to the Inter-American Commission on Human Rights: Medical Treatment of People with Intersex Conditions as a Human Rights Violation' (Advocates for Informed Choice, 2013) 5.

<sup>618</sup> *Re Carla* (n 493) [27].

traits like body or facial hair growth) or unspecified psychological harm at puberty.<sup>619</sup> Sterilization would never be recommended or permitted for an endosex child on such grounds.<sup>620</sup> The medicalised paradigm for intersex values fertility in the abstract but 'many medical interventions to intersex bodies, particularly gonadectomy, can effectively be considered sterilization as they limit any future utilization of healthy reproductive tissue.'<sup>621</sup>

Considering the lauded changes in treatment protocols and standards since the days of optimal gender practice, we might expect that the bias in favour of female fertility will have waned. This would lead to more decisions based on preserving male fertility, particularly in circumstances where the child is likely to develop a male gender identity. The weight of argument for variations such as 5 $\alpha$ -R2D or 17- $\beta$ /HSD deficiency would suggest that the child should be assigned to a male gender. This would be consistent with them having a male genotype, male gonads and likely male gender identity. Better still, we might expect that medical and surgical assignment is deferred until gender identity is established. There would be no need to perform genital surgery or a gonadectomy. If the child does develop a female gender identity as she gets older and approaches puberty, then decisions can be made, with her input and based on her developing capacity, about whether to undergo medical procedures to make her body more female. That might seem sensible, ethical and consistent with a commitment to human rights principles such as the right to embodied integrity and personal autonomy.

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<sup>619</sup> Carla Murphy, L Allen and Mary Anne Jamieson, 'Ambiguous Genitalia in the Newborn: An Overview and Teaching Tool' (2011) 24(5) *Journal of Pediatric and Adolescent Gynecology* 236.

<sup>620</sup> See discussion in Chapter 5 below.

<sup>621</sup> Androgen Insensitivity Syndrome Support Group Australia, Submission No 54 to Senate Standing Committees on Community Affairs, Parliament of Australia, *Involuntary or coerced sterilisation of intersex people in Australia* (12 March, 2013) 3.

A meta-analysis from 2014 does bear out claims of a change in approach and an increasing willingness to support male gender assignment in some 46,XY variations such as 5 $\alpha$ -R2D.<sup>622</sup> Kolesinka et al report that across three variations, the percentage of children assigned male almost doubled between 1990 and 2014.<sup>623</sup> In 2016 Fisher et al identified a changing emphasis, with a new focus on hormonal influences – a reference to brain organisation theory and gender development:

Historically, gender assignment was based essentially on surgical outcomes, assuming the neutrality of gender identity at birth. This policy has been challenged in the past decade refocusing on the importance of prenatal and postnatal hormonal and genetic influences on psychosexual development.<sup>624</sup>

On the other hand, much of the literature continues to emphasise criteria that seem to fit better with optimal gender theory. In the same article that emphasizes androgen exposure in utero in assigning sex, Fisher et al state that where a person is diagnosed with 5 $\alpha$ -R2D 'Particularly, penis length and its potential to develop during puberty into a sexually functional penis are crucial aspects to take into account if male assignment is considered.'<sup>625</sup>

Byers summarises the approach in 2017 that 'Sex of rearing is assigned based on diagnosis, genital appearance, surgical options, potential fertility and need for lifelong hormonal therapy.' She notes that in the cases on which she is reporting, 'external genital appearance played a large role in parental and clinical decision-making.'<sup>626</sup> Bakula et al describe the factors considered when assigning gender as including

biological factors, such as possession of a Y chromosome, degree and duration of pre- and postnatal androgen exposure, and, for both sexes, fertility potential, as well as social and cultural factors such as the presence of

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<sup>622</sup> Zofia Kolesinska et al, 'Changes over time in sex assignment for disorders of sex development' (2014) 134(3) *Pediatrics* e710.

<sup>623</sup> See discussion at 4.5.2.

<sup>624</sup> Fisher et al, (n 307), 1207.

<sup>625</sup> Ibid, 1211.

<sup>626</sup> Byers (n 471), 265.



traditional beliefs about gender roles, parent attitudes about sex of rearing, and quality-of-life considerations.<sup>627</sup>

Judging by the evidence and the decisions in *Re Lesley*<sup>628</sup> and *Re Carla*,<sup>629</sup> discussed in detail in sections 7.4.2 and 7.4.5 below, the multi-disciplinary specialist teams involved in those cases adhered to the traditional approach of basing gender assignment on likely surgical outcomes and whether the child will have an 'adequate' penis. In those cases both Lesley and Carla had 17-β/HSD deficiency. Although the chance of fertility is unknown for people with that variation, the medical evidence demonstrates an unquestioning adherence to the traditional approach which seems at odds with the claims of a changed paradigm.

#### 4.5.5 Medical intervention and gender identity

Research on gender identity development of people with intersex variations often identifies fetal hormone exposure as a relevant factor, but not the only factor, in how gender identity develops. Although some commentators emphasise hormones, many identify a much broader range of factors, including non-biological factors such as parental beliefs, social conditioning and cultural attitudes. Very few biomedical studies consider the impact of medical interventions themselves as likely to impact in unpredictable and unintended ways on the development of gender identity. As noted earlier, clinicians and biomedical experts tend to assume that all medical interventions will work to alleviate problems relating to an intersex variation and provide positive outcomes. Negative outcomes are not attributed to the interventions themselves. In a similar way, gender dysphoria is seen as arising *despite* the best efforts of medical specialists. As Jordan-Young explains

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<sup>627</sup> Bakula et al, (n 411) 214.

<sup>628</sup> *Re Lesley (Special Medical Procedure)* [2008] FamCA 1226. ('*Re Lesley*').

<sup>629</sup> *Re Carla* (n 493)

They never consider ways that the treatment itself constitutes a serious interference in the development of sexuality and gender for girls with CAH.<sup>630</sup>

As an example, Jordan-Young cites an article by Gaustaud et al reporting on a study of surgical outcomes of genital surgery on 35 women who had CAH.<sup>631</sup> In the study Gastaud and his colleagues found 81% of the women experienced pain during vaginal intercourse. 37% had never had vaginal penetration during sex. All of the participants had genital surgeries including vaginoplasty and clitoral reductions. Gastaud and his colleagues express disappointment that 'Despite expert medical and surgical care by physicians dedicated to this rare disease, women with CAH still suffer major limitations in their sexual function and reproductive life.' Jordan-Young comments that 'it would seem more reasonable to frame the poor outcomes comes as *because* of the medical care, rather than *despite* it.'<sup>632</sup>

A similar attitude is frequently expressed. For example, in an update of the 2006 consensus statement in 2016, Lee et al state that

Psychologically informed research with adults using a wider range of methods has captured specific difficulties, *often despite medical interventions*, such as dissatisfaction with binary gender, dissatisfaction with the DSD terminology, fear of devaluation, negative body image, social isolation, non-entitlement to relationships, preoccupation with heterosexual intercourse, functional sexual difficulties, barriers to communication with significant others and experiencing normalizing surgery as dilemmatic [emphasis added].<sup>633</sup>

Again, the word 'despite' reveals an assumption that medical interventions can only make life better for intersex people. This attitude is replicated in the cases concerning intersex minors.

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<sup>630</sup> Jordan-Young, (n 1) loc 3456.

<sup>631</sup> F Gastaud et al, 'Impaired Sexual and Reproductive Outcomes in Women with Classical Forms of Congenital Adrenal Hyperplasia' (2007) 92(4) *The Journal of Clinical Endocrinology & Metabolism* 1391.

<sup>632</sup> Jordan-Young, (n 1).

<sup>633</sup> Peter A Lee et al, 'Global Disorders of Sex Development Update Since 2006; Perceptions, Approach and Care' (2016) 85 *Hormone Research in Paediatrics* 158, 167; However Lee et al also acknowledge that 'The high prevalence of normalizing surgery makes it impossible to separate the psycho-social impact of body differences and surgical management.'

For example, in *Re A*<sup>634</sup> Mushin J expresses anger at the failure of A's parents to force A to comply with the medical regimen established:

It appears on the basis of the material which is available to me that had that treatment been undertaken it may well have been possible to avoid the appalling situation which has now arisen and in respect of which I am asked to make this decision.<sup>635</sup>

Jordan-Young identifies aspects of medical intervention which are likely to impact on an intersex person's gender role, sexuality, sexual orientation and gender identity.<sup>636</sup> Although Jordan-Young confines her analysis largely to women with CAH, her arguments are persuasive in relation to other intersex variations as well. Not only are intersex minors subjected to extensive surgeries, particularly genital surgeries, they - and their families - are also closely scrutinised and monitored with respect to their gender behaviour, gender role and sexuality. Aside from the effects of clitoral reduction, vaginoplasty (and subsequent dilation routine), labioplasty, gonadectomy and/or hypospadias 'repair' – most of which will require multiple surgeries – they are also monitored closely via regular visits to medical specialists, which will often include intrusive and regular scrutiny and inspection of their genitals, questions about their preferences, skills, abilities, likes and dislikes and, as they grow up, about their genital sensations and sexual desires and fantasies.

For intersex people, medical interventions can be experienced as shaming and traumatic and their outcomes are often disastrous. In a survey conducted in Australia in 2017, most participants reported negative experiences and outcomes of surgery:

Scarring was the most recurrent theme for those who had genital or chest surgeries (described in over a third of responses), followed by decreased or loss of sensation/pleasure/climax, and infections.<sup>637</sup>

These reports indicate that the procedures are experienced as traumatic. Furthermore, intersex people report that many of their encounters with medical professionals are humiliating.

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<sup>634</sup> *Re A* (n.209)

<sup>635</sup> *Ibid*, [13].

<sup>636</sup> Jordan-Young, (n 1) chapter.

<sup>637</sup> Tiffany Jones et al, (n 35) 110.

Some people reported being spoken to or treated in a way that suggested their natural genitals were dirty or shameful by medical staff during surgery pre-care or after-care, or being outright ignored. Several individuals had experienced extreme trauma and anxiety in medical settings due to receiving these interventions without consent. A few people had either experienced the treatment processes as sexual abuse or reported additional incidents of sexual abuse by doctors during so-called 'treatment sessions', or explained that their shame about their genitals made them more susceptible to sexually abusive dynamics subsequent to the surgery.<sup>638</sup>

Given the negative accounts of the limited research on outcomes of genital surgery on intersex people assigned female, which include loss of sensation, diminished capacity to orgasm and painful penetration, these negative associations are unsurprising. These matters touch on the most fundamental understanding of the gendered body. They implicate the most intimate aspects of a person's experience of their sexual and sexed being. It would be astonishing if these experiences did not impact on developing behaviour, sexuality and gender identity.

Brain organisation researchers consider high rates of homosexuality among women with CAH as solid evidence of hormonal impact in utero. In this literature it is virtually unknown to look to other explanations such as the profound difficulties in having sex in an orthodox heterosexual way ie vaginal penetration with an erect penis, following genital surgery. Jordan-Young notes the widespread assumption that vaginal penetration is the 'gold standard' for heterosexual sex.<sup>639</sup> Women who have undergone vaginoplasty often experience penetration as painful and uncomfortable. Women who have undergone clitoral surgeries find it difficult to orgasm. These factors likely contribute to why CAH women who have undergone genital surgeries may be asexual or engage in sex with other women. This insight is borne out by comments made in the above-mentioned survey:

A few participants in the single subgroup were looking for partners for whom penetrative sex was less of a focal point due to their own disinterest either on the basis of their bodily variation or the impacts of treatments they had received.<sup>640</sup>

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<sup>638</sup> Ibid.

<sup>639</sup> Jordan-Young, (n 1) loc 3402.

<sup>640</sup> Tiffany Jones et al, (n 35) 174.

When asked about the impact that their variations and medical interventions had on their sex life,

The largest theme that emerged (in 39 comments) was on the physical ways having intersex variations or treatment interventions negatively impacted on some participants' physical sexual ability and desire. Impacts included loss of control over genitals, lowered libido, vaginal dryness, an inability to get or maintain erections, lowered sensitivity and so forth.<sup>641</sup>

One of the least popular sexual activities identified by participants was penetrative sex.<sup>642</sup>

These accounts support the idea that sexuality will be impacted by medical interventions, both because the medical encounters are experienced as emotionally traumatic and shaming; and because the surgeries themselves impact on genital morphology in ways that can alter or reduce sensitivity, pleasure and sexual responsiveness.

Similarly, life-long experiences of having one's gender questioned, monitored and surveilled is likely to undermine the development of a secure and stable gender identity. As Jordan-Young outlines,

the diagnosis of CAH may be thought of as a lifelong "frame" through which clinicians, parents, and girls and women with CAH make sense of gender and sexuality, which likely affects both the development of gender and sexuality, and the way that individuals' traits and behaviors are perceived and reported.<sup>643</sup>

Brain-sex binary theories fails to consider the profound impact of the lived experiences of intersex people on their developing identity, sexuality and sense of their own bodies and gender.

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<sup>641</sup> Tiffany Jones et al, (n 35) 180. It should be noted that participants also reported that their variations improved their sex life.

<sup>642</sup> Tiffany Jones et al, (n 35) 183.

<sup>643</sup> Jordan-Young, (n 474) 1742.

### 4.5.6 Specialist teams and the cautious approach

The consensus statement from 2006 emphasised the need for medical decision-making by specialized teams with relevant expertise, armed with cutting edge technology and information. The second item on the list of optimal clinical guidelines was that ‘evaluation and long-term management must be performed at a center with an experienced multidisciplinary team’<sup>644</sup> The emphasis on multidisciplinary teams has been repeated in clinical policy documents since that time. For example, the Victorian Department of Health published a set of principles to guide decision-making in relation to intersex people, which stresses that ‘Evaluation and long-term management must be carried out at a centre with an experienced multidisciplinary team.’<sup>645</sup> This is further emphasised throughout the document:

To assist clinicians to apply the principles robustly, transparently and consistently, hospitals are strongly encouraged to establish formal specialised advisory groups of experts, such as multidisciplinary medical management groups and clinical ethics committees with specialist expertise in decision making about the healthcare of patients with intersex conditions.<sup>646</sup>

Like many clinically-focused documents generated since the consensus statement, it underscores the need for a cautious approach to surgery and other matters such as gender assignment. It frames the issues around important principles, including human rights principles, ethical principles, and legal principles. It promotes a rhetoric of caution in identifying the parameters of therapeutic versus non-therapeutic interventions. For example, it offers strong rhetorical support for the concerns of intersex advocates and the international debate on the ethics of normalising surgeries;

The focus of concern is in cases where treatments for cosmetic effect are carried out for conditions that pose little or no physical risk to the patient (for example, to ‘normalise’ the person’s body to make it look more typically male or female).<sup>647</sup>

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<sup>644</sup> Lynn H Gillam, Jacqueline K Hewitt and Garry L Warne, ‘Ethical Principles for the Management of Infants with Disorders of Sex Development’ (2010) 74(6) *Hormone Research in Paediatrics* 412.

<sup>645</sup> Victoria Department of Health, ‘Decision-making principles for the care of infants, children and adolescents with intersex conditions’ (2013), 4.

<sup>646</sup> Ibid 7.

<sup>647</sup> Ibid 21.

Very often, public statements outline the ethical concerns in detail, and express support for those concerns. For example, in a submission to the Senate Committee, the Australasian Paediatric Endocrine Group submitted a statement that acknowledged that genital surgeries for cosmetic purposes are highly contentious:

APEG acknowledges the contention in this area, and recommends that until further evidence becomes available, surgery for the purposes of appearance should only occur if consistent with international medical guidelines on degree of ambiguity, and that in terms of timing, parents should be thoroughly counselled about the options of very early surgery, delay until later in infancy or delay until the child can be involved themselves in the decision to operate.<sup>648</sup>

The submission refers with approval to a 2010 clinical ethical framework for the treatment of children with intersex variations which was developed by Gillam, Hewitt and Warne at the Royal Children's Hospital, Melbourne, the University of Melbourne, and the Murdoch Children's Research Institute, Melbourne.<sup>649</sup> The framework, developed using a methodology referred to as 'reflective equilibrium,' is explicitly confined to 'the situation of infants and young children only,'<sup>650</sup> sets out six key principles, and then elaborates on each principle in detail.

The principles we propose are: (1) Minimising physical risk to child. (2) Minimising psycho-social risk to child. (3) Preserving potential for fertility. (4) Preserving or promoting capacity to have satisfying sexual relations. (5) Leaving options open for the future. (6) Respecting the parents' wishes and beliefs.<sup>651</sup>

Mendonca et al counsel that 'Every couple that has a child with ambiguous genitalia must be assessed and receive counselling by an experienced psychologist, specialized in gender identity, who must act as soon as the diagnosis is suspected, and then follow the family periodically, more frequently during the periods before and after genitoplasty.'<sup>652</sup> This rhetorical commitment to a measured, evidence-based approach is evident in most policy statements, guidelines and clinical protocols published since 2006. The impression of a balanced, cautious,

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<sup>648</sup> APEG submission to Senate Committee (n 534) 5.

<sup>649</sup> Gillam, Hewitt and Warne, (n 644).

<sup>650</sup> Ibid 414.

<sup>651</sup> Ibid 414.

<sup>652</sup> Mendonca et al (n 497), 183.

multidisciplinary decision-making process based on sound ethical and human right principles should be highly reassuring. However, there are several factors which raise doubt about the extent to which this approach represents actual practice.

IHRA argues that individual multidisciplinary teams know very little about the actual practices of other teams, and notes that a high degree of variability in practices was reported to the Senate in 2013.<sup>653</sup> Georgianna Davis, a prominent American intersex advocate, identifies a different problem with the professional authority conferred on multi-disciplinary teams:

While DSD medical management teams are allegedly now operating in teams with expertise from across professions, those from psychiatry are typically less involved. Their exclusion makes sense because psychiatrists are less likely than surgeons to hold essentialist beliefs about sex, gender, and sexuality. Instead, psychiatrists are likely to see intersexuality as a social phenomenon, or at the very least, a shared medical-cultural phenomenon.<sup>654</sup>

The hierarchical culture of the medical profession means that multi-disciplinary teams will not necessarily provide good access to a range of specialist expertise. This perspective is reinforced by Human Rights Watch:

One of the main problems within DSD teams, some practitioners told Human Rights Watch, was the divergent views from different disciplines of medicine, and the power structures that privileged surgeons' opinions and advice to parents. While DSD team members interviewed repeatedly cited psycho-social reasons for performing genital surgeries on infants, and reported that mental health services were made available to parents as part of their decision-making process, some mental health providers emphasized that their input was rarely valued or utilized (2017).<sup>655</sup>

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<sup>653</sup> Australia, Submission to the Australian Human Rights Commission Inquiry on protecting the rights of people born with variations in sex characteristics in the context of medical interventions, Intersex Human Rights Australia No (2018).

<sup>654</sup> Davis, "'DSD is a Perfectly Fine Term': Reasserting Medical Authority through a Shift in Intersex Terminology', (n 23), 178.

<sup>655</sup> Human Rights Watch "'I want to be like Nature Made me:' Medically Unnecessary Surgeries on Intersex Children in the US' *InterAct: Advocates for Intersex Youth* (video link, 25 July 2017)



There is an assumption by many progressive commentators that multi-disciplinary teams are trained to operate within a robust human-rights-oriented framework that acknowledges problems with past treatment protocols and is sensitive to concerns about unnecessary and harmful surgeries and incorrect gender assignments bolstered by genital surgeries. Certainly this is the impression that emerges from reading the publicly-available heavily curated policy literature. Karkazis states ‘one could reasonably conclude that surgical practices result from a considered and deliberate reflection on scientific evidence.’<sup>656</sup> She goes on to comment

The rhetoric of technological ease, expertise and improvement masks the anxiety raised by gender-atypical bodies and avoids any moral discussion of the pathologisation of such bodies, the conceptualization of genitals as malleable organs – rather than as healthy parts of people – and the cultural and medical imperative to make normatively gendered subjects.<sup>657</sup>

The extent to which the current decision-making framework reflects considered and deliberate reflection on scientific evidence will be considered further in chapter 7, where I analyse medical and legal decision-making on intersex issues as reflected in Australian jurisprudence.

## 4.6 Conclusion

There are significant gaps between brain organisation theory and the literature on assigning intersex children to one or another gender, although both discourses endorse an essentialist binary concept of gender. The intersex literature identifies a range of factors as relevant in how gender identity develops in intersex children, although the concept of gender identity that emerges in this literature is simplistic, essentialist and reductive. Most researchers endorse fetal androgen exposure as an important influence but not determinative. A common theme is that sex of rearing is the most reliable predictor of gender identity. This suggests a rejection of brain-sex binary theories in favour of social determinism. However, this literature does not openly endorse any particular theory of gender identity development. Gender is seen as developing in idiosyncratic and unpredictable ways, often depending on the particular

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<<https://www.hrw.org/report/2017/07/25/i-want-be-nature-made-me/medically-unnecessary-surgeries-intersex-children-us>>

<sup>656</sup> Karkazis, (n 52), 137.

<sup>657</sup> Ibid.

variation. For example, researchers note that people with complete androgen insensitivity syndrome almost invariably develop a female gender identity. Women with CAH usually identify as female, though 5-10% identify as male. Gender identity in variations such as PAIS, 5 $\alpha$ -R2D and 17-B can't be predicted.

This would suggest that gender assignment should be extremely tentative, and that no irreversible interventions should occur until the child is old enough to express a stable gender identity. This is not what is occurring in practice. Instead, clinicians are committed to early surgeries including genital normalising surgery and gonadectomy. The limited evidence available indicates that in Australia children with 17 $\beta$ -HSD are still assigned female and subjected to early sterilisation and genital surgery, despite the evidence that the majority will identify as male at puberty. Girls with CAH are routinely given genital 'feminizing' surgery in infancy. This does not reflect a commitment to brain organisation theory. Rather, it seems to reflect an unwillingness to abandon the practices that were ubiquitous during the period of optimal gender theory. Though optimal gender theory is rejected in principle and thoroughly abjured in the public rhetoric on intersex, the medical interventions continue largely unchanged.

The detailed background information provided above is essential to understanding the judicial approach to medical interventions on intersex children which I analyse further in chapter 7. The cases approving medical interventions reveal absolute legal deference to the medical paradigm. All of the cases that involve a consideration of gender identity development reveal adherence to the practices of optimal gender theory. There is no consistent support for brain organisation theory or the impacts of fetal androgens on gender development.

In the following chapters, I turn my attention to the case law, beginning with Chapter 5, where I explain in detail the circumstances that led to the establishment of the special medical jurisdiction, giving jurisdiction to the Australian Family Court to determine whether certain medical procedures could be performed on minors. The key case establishing the special medical jurisdiction is *Secretary, Department of Health and Community Services v J.W.B. and*

*S.M.B. (Marion's Case)*<sup>658</sup> which concerned the proposed sterilisation of Marion, a young developmentally challenged woman aged 16 at the time of the proceedings. I also explore in some detail the background leading up to Marion's Case and examine those aspects of the proceedings which contributed to the development of a protective jurisdiction aimed at rigorous monitoring of medical interventions on children.

In chapter 6 I analyse the cases where the Australian Family Court was asked to approve medical procedures to treat gender dysphoria. In that chapter I consider the extent to which the legal discourse gives weight and expression to brain organisation theory. Finally, chapter 7 examines the cases approving medical interventions on intersex minors.

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<sup>658</sup> [1992] CLR 175

## **Part 2**

### **Legal Analysis of cases in the special medical jurisdiction**

## Chapter 5 The Special Medical Jurisdiction

### 5.1 Introduction

This chapter will introduce the concept of the special medical jurisdiction and the principles which contributed to its creation. This jurisdiction, exercised by the Australian Family Court, provides a mechanism by which non-therapeutic medical treatment on children can be monitored by the courts. The jurisprudence from the special medical jurisdiction provides a key focus for testing whether brain-sex binary theories have been taken up in legal understanding of sex and gender. Australia is unique in having a special medical jurisdiction responsible for monitoring and regulating non-therapeutic and contested medical and surgical interventions on minors. The jurisdiction has been compared to the *parens patriae* jurisdiction of the higher courts, in that its focus is on protection of vulnerable people who lack competence. The *Family Law Reform Act 1995* amended the *Family Law Act 1975* (Cth) by, inter alia, inserting s 67ZC which confers on the Court the welfare jurisdiction, giving legislative force to the decision in *Marion's Case*. In this chapter I explore the origins of the special medical jurisdiction in *Secretary, Department of Health and Community Services v JWB and SMB (Marion's Case)*<sup>659</sup> and consider some of the criteria by which the jurisdiction is triggered and exercised.

In this chapter I provide a detailed discussion of the context in which concern for the human rights of girls with disabilities was growing in the face of increasing awareness of the widespread practice of involuntary sterilisation. Sterilisation procedures were supported by orthodox medical practice and couched in the language of embodied disability, the family, and the private realm. A medical perspective on disability conceptualises it as a deficit or incapacity

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<sup>659</sup> *Secretary, Department of Health and Community Services v JWB and SMB* (1992) 175 CLR 258. ('*Marion's Case*')

that resides in the body of the disabled person.<sup>660</sup> The care of disabled minors was seen as a private family matter which was best served by close cooperation between parents and medical professionals, who would support the family structure by interventions on the body of the disabled minor. The medicalisation of sterilisation practices sought to screen parents and doctors from scrutiny and criticism. In the late 20<sup>th</sup> century, human rights and disability advocacy groups began to lobby for change, leading to litigation.<sup>661</sup> The litigation leading up to and including *Marion's Case* is characterised by adversarial testing of evidence and ventilation of a range of medical and non-medical issues during the proceedings. These contributions to the genesis of the special medical jurisdiction are important in understanding its scope and aims because they contextualise and inform the judgment. The founding principles, as well as the lessons emerging from the conduct of proceedings, amount to standards against which subsequent exercises of the jurisdiction can be measured, including the cases that are the subject of this thesis.

The principles that emerge from *Marion's Case* are profoundly important and represent a high water mark of judicial attention to human rights issues impacting on children. In Chapters 6 and 7, I will be analysing cases heard under the jurisdiction created in *Marion's Case*, and to some extent measuring those later cases against the proceedings and principles that characterise *Marion's Case*.

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<sup>660</sup> In contrast to a critical focus which analyses disability as a legal, cultural, historical, relative, social, and political phenomenon. A disability rights focus aims to 'weave disabled people back into the fabric of society...as full citizens whose rights and privileges are intact': Hall, Melinda C, 'Critical Disability Theory,' *The Stanford Encyclopedia of Philosophy* (Winter 2019 Edition), Edward N Zalta (ed.), URL = <<https://plato.stanford.edu/archives/win2019/entries/disability-critical/>>.

<sup>661</sup> Including *Re Jane* (1988) 94 FLR 1; *Re a Teenager* (1988) 94 FLR 181; *Attorney-General (Qld) v Parents (Re S)* (1989) 98 FLR 41.

### 5.1.1 Consent for minors in Australian law

Under Australian law, interference with bodily integrity is generally unlawful unless the recipient has consented to such interference. A complication arises where the person undergoing the procedure is unable to consent because they lack capacity. When a person lacks capacity and is unable to make an informed choice then specific measures are provided to ensure that they get appropriate treatment. If the treatment is urgent it may be lawful without consent from the patient or anyone else.<sup>662</sup> More commonly, treatment can be authorised by a third party who has a protective role or relationship with the patient. In particular, the law makes provision for minors who lack capacity to ensure that consent can be given on their behalf for medical procedures. Thus where a minor lacks capacity to consent, parents or guardians have the power and the obligation to consent to or refuse treatment for children.<sup>663</sup> This is a normal incident of parenthood, and sits within a larger framework of parental rights and obligations.<sup>664</sup> Parents are empowered to make fundamental decisions relevant to their child's upbringing, including issues such as schooling, religion, diet, discipline, friendships and associations, residence, clothing and apparel, and cultural activities.

Under common law, the capacity of minors is based on actual understanding and contingent on the complexity of the issues.<sup>665</sup> This means that a minor may have capacity to consent to treatment, depending on a number of factors such as age, maturity, insight, cognitive ability and the nature of the treatment. In some instances, a child will lack capacity because of an intellectual disability as well as age. An intellectual disability may delay the development of capacity to consent, or it may mean that the patient will never develop the requisite capacity. An intellectual disability also may influence the expectations of others about the likelihood or

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<sup>662</sup> *Rogers v Whitaker* (1992) 175 CLR 479.

<sup>663</sup> *Marion's Case* (n 659).

<sup>664</sup> *Family Law Act 1975* (Cth). ss 61B and 61C.

<sup>665</sup> *Marion's Case* (n 659).

ability of a patient to consent to treatment or the impact of treatment. It often leads others to underestimate a patients' capacity and understanding.

Parental authority is not unfettered, as it must be exercised in the best interests of the child:

. . . ordinarily a parent of a child who is not capable of giving informed consent is in the best position to act in the best interests of the child. Implicit in parental consent is understood to be the determination of what is best for the welfare of the child.<sup>666</sup>

In the context of health law, as for family law, the paramount principle is the best interests of the child. This principle is complex and indeterminate, as will be demonstrated in the analysis of cases below.

## 5.2 Special Medical Jurisdiction

Since 1992, the scope of parental authority to consent to medical treatment for minors is further restricted by common law. Some medical procedures fall outside the scope of parental authority and can only be performed with authorisation from a relevant court or tribunal. In that year the Australian Family Court was vested with jurisdiction to authorise some procedures which fall beyond the scope of parental authority.<sup>667</sup> This jurisdiction is now described as covering 'special medical procedures' and is widely referred to as the 'special medical jurisdiction.' It is a protective jurisdiction which supplants the authority of parents to consent to medical treatment in select circumstances.

The circumstances of Marion's case are helpful in understanding the intentions and scope of the jurisdiction, which were to promote a human rights focus and a recognition of the importance of developing autonomy in children. I will argue that the intentions and scope have been read down significantly over the last 30 years. The consequence has been a preoccupation with sterilisation cases, at the expense of considering other ethically dubious medical procedures such as genital normalising surgery. Moreover, I argue that the Australian Family

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<sup>666</sup> Ibid [26].

<sup>667</sup> *Marion's Case* (n 659).



Court has been captured within the medical paradigm and fails to provide a meaningful legal constraint on a medicalised perspective of sexed bodies.

### 5.3 Coercive Sterilisation – a brief history

Forced sterilization of women and girls with intellectual or development disabilities has a dark history in a number of developed countries, including many European and South American countries, Australia, Canada, UK and the US.<sup>668</sup> From the early 20<sup>th</sup> Century, state-led programs of compulsory sterilisation, often with explicitly eugenic aims, were introduced in many jurisdictions.<sup>669</sup>

In the early 20<sup>th</sup> century eugenic sterilization policies and laws targeted a range of populations such as criminals, the mentally ill, women from ethnic minorities and women with disabilities.<sup>670</sup> Attitudes to coercive sterilization began to change following World War II and the realisation of the connection between Nazi eugenic programs and genocidal policies.<sup>671</sup> Following World War II, openly eugenic programs were gradually abandoned, although sometimes only after several decades. Eugenic aims often lingered on in the discourse, including case law, on sterilization. Despite the general discrediting of eugenics, however, sterilization continued to be practiced on intersex people and women with developmental

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<sup>668</sup> C Hamilton, 'Sterilisation and intellectually disabled people in New Zealand—still on the agenda?' (2012) 7(2) *Kotuitui: New Zealand Journal of Social Sciences Online* 61; Elizabeth Kingdom, 'Consent, Coercion and Consortium: The Sexual Politics of Sterilisation' (1985) 12(1) *Journal of Law and Society* 19; Jeff Goldhar, 'The Sterilization of Women with an Intellectual Disability - A Lawyer Looks at the Medical Aspects' (1991) 10 *University of Tasmania Law Review* 157; Molly Ladd-Taylor, 'Contraception or eugenics? Sterilization and "mental retardation" in the 1970s and 1980s' (2014) 31(1) *Canadian Bulletin of Medical History* 189; Malcolm Parker, "'Forced Sterilisation": Clarifying and challenging intuitions and models' (2013) 20 *Journal of Law and Medicine* 512.

<sup>669</sup> Deborah Dolan, 'Psychiatry, Psychology, and Human Sterilization Then and Now: "Therapeutic" or in the Social Interest?' (2007) 9(2) *Ethical Human Psychology and Psychiatry* 99.

<sup>670</sup> Ladd-Taylor, (n 668); R E N U Barton-Hanson, 'Sterilization of men with intellectual disabilities' (2015) 15(1) *Medical Law International* 49.

<sup>671</sup> Raanan Gillon, 'Editorial: On Sterilising Severely Mentally Handicapped People' (1987) 13(2) *Journal of Medical Ethics* 59.

disabilities. The paradigm and motivation for sterilization in the context changed. Sterilization was no longer performed for explicitly eugenic purposes. Rather, the stated aims of sterilising intellectually disabled women and girls were to ease the burdens of care, hygiene, menstrual management and contraception.<sup>672</sup> The practice was justified by reference to the interests of the woman or girl, particularly where she lacked capacity (or was assumed to lack capacity) to make decisions about reproduction, to parent or to consent to sexual activity. A desire to control both reproductive capacity and menses motivated parents caring for disabled girls to seek sterilisation, and the medical profession supported that as an appropriate measure.<sup>673</sup>

The development of disability advocacy and human rights recognition, including the rights of disabled people and children, began to shift public perceptions about the legitimacy of sterilization of women and girls with developmental disabilities. Over the 1970s and 1980s, disability advocates and human rights activists began to criticise the practice as an unwarranted bodily mutilation, serving the interests of families, carers and ideology at the expense of the individual women. It was increasingly framed as a serious human rights violation, interfering with bodily integrity, autonomy and reproductive freedom.<sup>674</sup> The medical model of disability was under challenge, and the sterilization of women with intellectual disabilities fit within this discourse as an example of structural inequalities being addressed through restrictions on women and breaches of human rights. Additionally, as a highly gendered practice, it raised concerns about women's reproductive autonomy that are central to feminist analysis of the law.<sup>675</sup> Thus the practice of sterilizing women with developmental disabilities is at the

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<sup>672</sup> A George, 'Sterilisation and intellectually disabled children: in the matter of P and P' (1996) 18(2) *Sydney Law Review* 218.

<sup>673</sup> Senate Committee Report, (n 2).

<sup>674</sup> Dolan, (n 669); Stephen Cordner and Kathy Ettershank, 'Australia's illegal sterilisations revealed' (1997) 349(9060) *The Lancet* 1231; Gillon, (n 671).

<sup>675</sup> Elizabeth Tilley et al, "'The silence is roaring': sterilization, reproductive rights and women with intellectual disabilities' (2012) 27(3) *Disability & Society* 413; Kristin Savell, 'Sex and the sacred: sterilization and bodily integrity in English and Canadian law' (2004) 49(4) *McGill Law Journal* 1093.

intersection of disability rights, children's rights and women's rights (particularly reproductive rights), and was increasingly viewed through these lenses, rather than through a medicalised or private and individualised perspective.

## 5.4 Coercive Sterilisation Cases

Cases challenging the practice appeared in common law jurisdictions including Canada,<sup>676</sup> New Zealand,<sup>677</sup> US,<sup>678</sup> and UK,<sup>679</sup> as well as Australia. In Canada, the issue was brought to head in *E (Mrs) v Eve ('Re Eve')*.<sup>680</sup> In that case, the Court determined that sterilisation of intellectually disabled women who are minors could not be authorised by a parent or guardian. The Court further concluded that 'the procedure should never be authorised for non-therapeutic purposes under the *parens patriae* jurisdiction.'<sup>681</sup> The following year, the House of Lords rejected the dicta from *Re Eve*:

But whilst I find the court's history of the *parens patriae* jurisdiction of the Crown extremely helpful, I find, with great respect, their conclusion that the procedure of sterilisation should never be authorised for non-therapeutic purposes, totally unconvincing and in startling contradiction to the welfare principle which should be the first and paramount consideration in wardship cases.<sup>682</sup>

In Australia, the same issues were canvassed in the Australian Family Court, culminating in four cases in the late 1980s where the Court reached opposite decisions about the scope of parental authority. In *Re a Teenager*<sup>683</sup> and *Re S; Attorney-General (Qld) v Parents*<sup>684</sup> the Court concluded that sterilisation fell within the scope of parental authority, provided that the procedure was in the minor's best interests. In *Re Jane*<sup>685</sup> and *Re Elizabeth*<sup>686</sup> the Court

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<sup>676</sup> *E (Mrs) v Eve ('Re Eve')* [1986] 2 SCR 388. ('Re Eve').

<sup>677</sup> Hamilton, (n 668).

<sup>678</sup> *In re Grady* (74) (1981) NJ 426 A 2d 467.

<sup>679</sup> *Re D (A Minor)* [1976] 2 WLR 279; *Re B (A Minor)* [1987] 2 WLR 1213.

<sup>680</sup> *Re Eve* (n 676).

<sup>681</sup> Ibid 427.

<sup>682</sup> *Re B (A Minor)* [1987] 2 All ER 206, 213.

<sup>683</sup> *Re a Teenager* (1988) 94 FLR 181.

<sup>684</sup> *Attorney-General (Qld) v Parents (Re S)* (1989) 98 FLR 41.

<sup>685</sup> *Re Jane* (1988) 94 FLR 1.

<sup>686</sup> *Re Elizabeth* (1989) 96 FLR 248.

concluded that a sterilization procedure was outside the scope of parental authority and that the Court's authority was required. This conflict was resolved in *Marion's Case*, when the majority in the High Court determined that sterilisation for non-therapeutic purposes fell outside the scope of parental authority, and required court authorisation to be lawfully performed.

## 5.5 Marion's Case

*Secretary, Department of Health and Community Services v J.W.B. and S.M.B. (Marion's Case)*<sup>687</sup> was decided in 1992 by the High Court. The key issue was whether or not the parents of a fourteen year old girl could consent to the performance of a hysterectomy and ovariectomy on her, or whether this required the authorisation of a Court. In addressing the reason why sterilisation might be treated differently from other medical procedures, the majority noted that 'characterising it as medical treatment makes assumptions and narrows the inquiry. It is the very fact that sterilization implies more than medical, or surgical, treatment that is crucial to the central issue in this appeal.'<sup>688</sup>

In determining that sterilisation falls outside the scope of ordinary parental authority, the majority began by distinguishing between therapeutic and non-therapeutic sterilisations. Although they adopt that distinction reluctantly, the conclusion seems to be that there is some 'common sense' value in it to make distinctions between controversial and uncontroversial procedures. Thus the first 'cut' here is to exclude therapeutic procedures: 'we are not referring to sterilization which is a byproduct of surgery appropriately carried out to treat some malfunction or disease'<sup>689</sup>

The second important characteristic is that '... sterilization requires invasive, irreversible and major surgery.'<sup>690</sup> The majority acknowledge that other medical procedures such as appendectomy also meet that criteria, and go on to add that in the case of sterilisation, '[c]ourt

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<sup>687</sup> *Marion's Case* (n 659).

<sup>688</sup> Ibid 232.

<sup>689</sup> Ibid 250.

<sup>690</sup> Ibid 250.

authorization is required, first, because of the significant risk of making the wrong decision, either as to a child's present or future capacity to consent or about what are the best interests of a child who cannot consent, and secondly, because the consequences of a wrong decision are particularly grave.<sup>691</sup> The majority then identify five factors which 'contribute to the significant risk of a wrong decision being made'<sup>692</sup>

The first of these five factors is the complexity of consent where a minor is intellectually disabled. This includes the fact that it is common to underestimate or misconceive of the level of capacity of people with intellectual disabilities. This misconception is compounded by youth. Determining capacity of minors without intellectual capacity is difficult. Disability can add a thick layer of complexity.

The second factor relates to the medicalisation of the procedure. This factor has two elements. Firstly, the medicalisation of sterilisation of intellectually disabled women is driven by a particular framework whereby a social problem is constructed as a medical one. Although the medical paradigm is constructed as a scientific endeavour which is objective and insulated from non-objective influence, medicine itself and medical professionals are not immune to cultural and social biases.

The second element is that the decision to sterilise in this context is not a purely medical decision. It resonates with political implications that extend far beyond the biological impact.

The third factor identified by the majority as relevant to the significant risk of making a wrong decision is the tension between the rights and interests of an intellectually disabled girl, and the rights and interests of those around her, including her parents and carers.

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<sup>691</sup> Ibid 250.

<sup>692</sup> Ibid 250.

The fourth factor which is articulated in the majority decision is that the consequences of a wrong decision being made are particularly grave. In that regard, they say 'The gravity of the consequences of wrongly authorizing a sterilization flows both from the resulting inability to reproduce and from the fact of being acted upon contrary to one's wishes or best interests. The fact of violation is likely to have social and psychological implications concerning the person's sense of identity, social place and self-esteem.'<sup>693</sup>

Finally, the majority argue that a general rule that allows guardians to consent to sterilization is dangerous because it could be used to justify other procedures such as clitoridectomy or the removal of a healthy organ for transplant to another child.

It is difficult to pin down the relevant elements that were salient to the Court's decision that sterilisation of intellectually disabled girls was in a special category that falls outside the normal scope of parental authority. However, from the final factor outlined in the majority decision, it seems clear that the Court did not intend the requirement of court authority to apply only to this specific and discrete category of circumstances. We can infer that the intention was to create a broader jurisdiction that would extend to comparable medical procedures. That has happened, although to a limited extent. The Australian Family Court has, exercising its special medical procedure jurisdiction, authorised other procedures including bone marrow transplant,<sup>694</sup> termination of pregnancy,<sup>695</sup> stages 1 and 2 hormonal treatment of gender dysphoria,<sup>696</sup> and experimental treatment,<sup>697</sup> as well as sterilisation procedures.<sup>698</sup> However, many of the cases reveal a continuing preoccupation with sterilisation, even in the context of other highly controversial and contested medical procedures.<sup>699</sup>

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<sup>693</sup> Ibid 252.

<sup>694</sup> *GWW and CMW* (1997) 92 FLC 748; *Re Inaya* [2007] FamCA 658.

<sup>695</sup> *Queensland v B* [2008] QSC 231.

<sup>696</sup> Beginning with *Re Alex* (2004) 180 FLR 89.

<sup>697</sup> *Re: Baby A* [2008] FamCA 417.

<sup>698</sup> *P v P (No 2)* (1994-1995) 19 Fam LR 1.

<sup>699</sup> See, for example, the discussion of *Re Carla* (n 493) at section 7.4.5 below.

Despite the rigorous and lengthy examination of evidence, these cases reflect the difficulty in identifying and expressing in clear terms the issue or issues at stake. As noted, the practice of sterilising women and girls with intellectual disabilities sits at the intersection of at least three highly contentious and sensitive topics. These are disability rights, the rights of children and women's reproductive autonomy. Given the complexity of each of these matters on its own it is unsurprising that it is difficult to distil clear principles or rights that are at stake in the specific question of the moral, ethical and legal legitimacy of involuntary sterilisation.

In each of the sterilisation cases it is argued that sterilisation of intellectually disabled women and girls occupies a special place that takes it outside the scope of parental authority. For example, in *Marion's Case*, the majority begin by asking 'Is sterilization, in any case, in a special category which falls outside the scope of a parent to consent to treatment? Is such a procedure a kind of intervention which is, as a general rule, excluded from the scope of parental power?'<sup>700</sup> As noted above, they comment that the issues extend far beyond a biomedical framework. Human rights concerns emerge in the literature in three separate but related threads. Many of the cases and commentaries refer to a right to reproduce or a right not to be deprived of a choice to reproduce. Some refer to a right to bodily integrity. Others describe the principle as one of bodily autonomy. Each of these conceptualisations is problematic for different reasons, but I will argue in section 5.6 below that the most significant underlying principle is that of bodily integrity rather than bodily autonomy or a right to reproduce. Reconceptualising bodily integrity as embodied integrity provides an even more powerful and nuanced frame which captures the rights and interests at stake and is highly relevant to the issues facing law in its decision-making responsibilities regarding medical interventions on intersex and trans minors.

### 5.5.1 Adversarialism

In *Marion's Case* the High Court effectively created a new jurisdiction linked to the *parens patriae* jurisdiction and similarly protective in nature. The majority did not elaborate or specify

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<sup>700</sup> *Marion's Case* (n 659).

either the scope of the jurisdiction, or the criteria by which decisions should be made, and urged legislative reform to deal with these questions: 'These are clear indications of the need for legislative reform, since a more appropriate process for decision-making can only be introduced in that way.'<sup>701</sup> To understand the nature and scope of the jurisdiction we can only examine the case itself, as well as previous and subsequent jurisprudence.

In *Marion's Case* and each of the four Australian cases preceding it, the litigation was initiated by a public interest group such as a disability advocacy service, and the Australian Human Rights Commission acted as an intervenor. The intervenor in each case sought to challenge the authority of the medical paradigm and to emphasise the human rights and broader social issues, including reframing disability as a social construct rather than as an individualised biological deficit requiring medical intervention. As a result of this context, each issue was strongly contested, thoroughly ventilated and challenged in great detail. Each of the hearings involved a detailed, deeply considered and careful analysis of the medical, social and political issues. The medical evidence adduced by each party reflected strongly held opposing views.

In *Re Jane*<sup>702</sup> the Acting Public Advocate of the State of Victoria commenced injunctive proceedings<sup>703</sup> seeking appointment as Next Friend of the child. The parents of Jane were Respondents in the proceedings. The Australian Human Rights Commission intervened in the proceedings.<sup>704</sup> Medical evidence was tendered on behalf of both intervenors and came from a range of medical specialists.<sup>705</sup> Both intervenors made lengthy and detailed submissions

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<sup>701</sup> Ibid 253.

<sup>702</sup> *Re Jane* (1988) 94 FLR 1.

<sup>703</sup> *Guardianship and Administration Board Act 1986* (Vic) s16(1)(f) empowers the Public Advocate to represent interests of persons with a disability in such proceedings.

<sup>704</sup> Human Rights and Equal Opportunity Commission Act 1986 (Cth) s11(1)(o).

<sup>705</sup> including Professor Bishop, a consultant obstetrician and gynaecologist; Dr L Reti, a consultant obstetrician and gynaecologist; Dr Glaser, a psychiatrist; Ms Sue Davies, a psychologist with the Office of the Intellectually Disabled; Dr Krupinska, a psychiatrist; and Dr Lupton, psychiatrist: *Re Jane* (1988) 94 FLR 1, 4-6,



objecting to the proposed sterilisation procedure, on the bases that it was not within parental authority, and that it was not in Jane's best interests. The significant role of the intervenors in the proceedings was recognised by Nicholson CJ in his judgment:

I consider that it is vital that before procedures of this type are sanctioned by the court, it should have the benefit of an independent presentation from some disinterested third party on behalf of the child. In the present case, I have been greatly assisted by the submissions and evidence placed before me by the Public Advocate and by the submissions of the Human Rights Commission.<sup>706</sup>

In *Re A Teenager*<sup>707</sup> the proceedings were commenced at the instigation of a worker at the child's disability care centre who approached a legal centre to seek advice. Ultimately the Secretary of a disabled persons' society was appointed as Next Friend and the Australian Human Rights Commission intervened in the proceedings. The judgment by Cook J does not specify all of the medical witnesses or their qualifications, but does note that the family doctor who supported the parents in proposing the operation, had been the 'subject of a strong and critical attack by counsel for the child and the [Australian Human Rights] Commission'<sup>708</sup> and noted that 'In a hearing lasting 13 days a very great deal of evidence was received by the court.'<sup>709</sup> Justice Cook also noted that '[v]ery full and complete submissions were made on behalf of the child by learned counsel.'<sup>710</sup>

The following year, in *Re Elizabeth*,<sup>711</sup> the proceedings were commenced by Next Friend, Jane Peters from the Advocacy Office of the NSW Council for Intellectual Disability. Justice Ross-

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<sup>706</sup> Ibid.

<sup>707</sup> *Re a Teenager* (1988) 94 FLR 181.

<sup>708</sup> Ibid 193.

<sup>709</sup> Ibid.

<sup>710</sup> Ibid 188.

<sup>711</sup> *Re Elizabeth* (1989) 96 FLR 248.

Jones listed a large number of expert witness.<sup>712</sup> In the same year, proceedings were initiated by the Queensland Attorney General in *Re S*<sup>713</sup> in response to prompting by staff from the minor's home. The child was separately represented in the proceedings. Justice Simpson comments that '[a] considerable body of evidence was placed before me.'<sup>714</sup> Eleven expert witnesses were called, covering a range of specialisations, from medical specialists to disability carers.<sup>715</sup>

All four of these cases were hotly contested, providing the Court with vying perspectives and subjecting the evidence to close testing and examination. By contrast, many of the cases following Marion's Case, particularly those involving intersex minors, which are the focus of Chapter 7, have not included strong intervenors or advocates opposing the treatments or surgeries. The medical evidence has tended to speak with one voice. The intervenors, for the most part, have not provided independent evidence and have not challenged the medical paradigm or orthodoxy. Our adversarial system requires the presence of a strong contestator in order for the evidence to be adequately tested. This issue will be further examined in Chapter 7 below.

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<sup>712</sup> On behalf of Elizabeth, reports were filed and evidence given by (a) Professor Michael J Bennett, Head of School in the School of Obstetrics and Gynaecology at the University of New South Wales; (b) Dr Michael Ryan, Director of the Developmental Disability Service of the Illawarra Area Health Service; (c) Associate Professor Ian Fraser of the Department of Obstetrics and Gynaecology at the University of Sydney; and (d) Associate Professor Susan Hayes, Head of the Department of Behavioural Sciences in Medicine at the University of Sydney and a practising Clinical Psychologist. A report was also filed by Miss Jenny Flatt, a Clinical Psychologist. On behalf of the mother, reports were filed and evidence given by: (a) Dr Robert J Lee, General Medical Practitioner for Elizabeth's family for some eight years; (b) Dr John Newlinds, Obstetrician and Gynaecologist (c) Dr Julie Haas, Paediatrician; (d) Dr Barbara Dunlop, a General Practitioner in private practice; and (e) Dr Hugh Patterson, Specialist Obstetrician and Gynaecologist. Ibid 252-253.

<sup>713</sup> Attorney-General (Qld) v Parents (Re S) (1989) 98 FLR 41.

<sup>714</sup> Ibid 42.

<sup>715</sup> Ibid 43-48.

### 5.5.2 Interests of minors versus interests of parents

Within the discourse, including the cases and academic literature on the topic of sterilisation of developmentally delayed girls, there are repeated hints of distrust of parental objectivity and their ability to recognise and promote a minor's separate interests above their own. In *Re Eve*,<sup>716</sup> the applicant mother had argued that the sterilisation of her intellectually disabled daughter was necessary because she feared Eve might innocently become pregnant and consequently force her, a widow approaching sixty, to assume responsibility for the child. As the trial judge described it,

[Mrs E] is a widow, approaching sixty years of age, and would inevitably be left with the care of any child which might be born. She feels that, at her age, this would be a responsibility with which she would have great difficulty coping, and quite understandably so. Hence her desire to have her daughter sterilized.<sup>717</sup>

The Court rejected Mrs E's argument because 'The discretion given under this jurisdiction is to be exercised for the benefit of the person in need of protection and not for the benefit of others.'<sup>718</sup>

In a similar vein, Ross J in *Re Elizabeth*<sup>719</sup> noted that in *Re B (A Minor) (Wardship: Sterilisation)*<sup>720</sup> the House of Lords 'said that the appeal had nothing to do with any attempt to lighten the burden which falls on those who have care of the ward.'<sup>721</sup> In *Re Jane*,<sup>722</sup> it was argued by the intervenor that 'insofar as the operation was said to be necessary to avoid menstrual difficulties, this was a factor which related more to the child's caregivers than to the

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<sup>716</sup> *Re Eve* (n 676).

<sup>717</sup> Quoted in *ibid* 393-4.

<sup>718</sup> *Ibid* 389.

<sup>719</sup> *Re Elizabeth* (1989) 96 FLR 248; *Re Jane* (1988) 94 FLR 1.

<sup>720</sup> *Re B (A Minor)(Wardship: Sterilisation)* [1987] 2 WLR 1213.

<sup>721</sup> *Ibid* 254.

<sup>722</sup> *Re Jane* (1988) 94 FLR 1.

child herself.’<sup>723</sup> Nicholson said ‘In cases of this nature the caregivers, usually the parents, cannot be expected to view the matter dispassionately or impartially because they themselves are so intimately involved with the problems presented to them by reason of their care of the child in question.’<sup>724</sup> The protective nature of the *parens patriae* jurisdiction requires the rights and interests of the incompetent person to be given absolute primacy over the rights and interests of others.

This concern to identify the rights and interests of the child separately from the needs and concerns of the family and parents is in sharp contrast to the medical and judicial attitude towards the families of intersex children. As discussed in chapter 4, the medical protocol and paradigm for intersex variations is to ‘treat’ intersex, partly to assuage the fears and concerns of the parents and family. As Richards and Wisdom argue, ‘[t]he very young child is, in these instances [of genital normalisation of ‘ambiguous’ genitals], treated as an extension of the parents who simply want a “normal” child, and there is little, to no, consideration of the impact that decisions made at this time will have on the future adult.’<sup>725</sup> This is often couched as promoting the child’s interests by improving the bond between the child and his or her parents or by reducing social anxiety for the child. As we shall see in Chapter 7 below, the judiciary have adopted the same approach as the medical model of disability, whereby the needs and interests of the child are explicitly subsumed in the needs and interests of the child’s family.

### 5.5.3 Medicalisation

Medicalisation is a theme that emerges in a few of the cases and many of the articles and secondary literature commenting on the cases. The complicity of both law and medicine in

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<sup>723</sup> Ibid 21.

<sup>724</sup> Ibid 30.

<sup>725</sup> Bernadette Richards and Travis Wisdom, ‘Re Carla: an Error in Judgment’ (2018) 18(2) *QUT Law Review* 77, 80.

earlier eugenic practices suggests ongoing complicity in human rights breaches. There is a tendency towards paternalism in medical practice, particularly in dealing with vulnerable patients and/or patients with disabilities. Judicial commentary on the role and independence of the medical profession is largely deferential to the medical evidence and paradigm, even where the ethics and legitimacy of sterilisation are challenged. However, in *Marion's Case*<sup>726</sup> and *Re Jane*,<sup>727</sup> that deference is strongly qualified.

In *Re Jane*, Nicholson J notes that

Like all professions, the medical profession has members who are not prepared to live up to its professional standards of ethics ... Further, it is also possible that members of that profession may form sincere but misguided views about the appropriate steps to be taken.<sup>728</sup>

This is perhaps the starkest judicial suggestion of medical complicity in unethical sterilisation practices. It is taken up in *Marion's Case*, where the majority endorse Nicholson J's approach:

We agree with Nicholson CJ in *Re Jane* that, as with all professions, there are those who act with impropriety as well as those who act bona fide but within a limited frame of reference.<sup>729</sup>

In commentary, Handsley argues that '...by constructing the issue as a 'medical' one, [the judiciary] perpetuate the historical view of mental handicap as a disease and mentally handicapped people as "sick" and "unfortunate."' <sup>730</sup> Further she argues that Courts are in a better position than doctors to make decisions about sterilisation for a range of reasons, including the tendency of the medical profession to adopt a narrow conception of health rather than a broader human rights-based approach; the apparent objectivity of scientific and

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<sup>726</sup> *Marion's Case* (n 659).

<sup>727</sup> *Re Jane* (1988) 94 FLR 1.

<sup>728</sup> *Ibid*, 26.

<sup>729</sup> *Marion's Case* (n 659). 250.

<sup>730</sup> Elizabeth Handsley, 'Sterilisation' of Young Intellectually Disabled Women' (1994) 20 *Monash Law Review* 271, 281.

therefore medical solutions, which renders them more immune to challenge by non-scientists; and the tendency of a family doctor to defer to family needs due to the dynamic of the doctor/patient/family relationship.<sup>731</sup> Goldhar traces the deep complicity of the medical profession in Australia in eugenics programs and argues that attitudes towards disability and the medical model of disability that supported eugenics have also informed and influenced medical support for sterilisation following the discrediting and abandonment of eugenic theory.<sup>732</sup> He concludes that '[d]octors have for years connived with parents to perform an operation that takes away the basic human right to reproduce.'<sup>733</sup>

Medicalisation of sterilisation of intellectually disabled girls parallels similar processes impacting on how we conceptualise issues such as childhood 'gender dysphoria' and medical 'normalisation' of children with intersex variations. Conrad describes the process of medicalisation as 'defining a problem in medical terms, using medical language to describe a problem, adopting a medical framework to understand a problem, or using a medical intervention to "treat" it.'<sup>734</sup> Medicalisation is a powerful social force, and can result in forms of social control that are legitimated by their inclusion within medicine's jurisdiction. Conrad elaborates medical social control as occupying three domains:

Medical ideology, collaboration and technology. Simply stated, medical ideology imposes a medical model primarily because of accrued social and ideological benefits; in medical collaboration doctors assist (usually in an organizational context) as information providers, gatekeepers, institutional agents, and technicians; medical technology suggests the use for social control of medical technological means, especially drugs, surgery, and genetic or other types of screening.<sup>735</sup>

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<sup>731</sup> Ibid 282-283.

<sup>732</sup> Goldhar, (n 668).

<sup>733</sup> Ibid 187.

<sup>734</sup> Peter Conrad, 'Medicalization and Social Control' (1992) 18(1) *Annual Review of Sociology* 209, 211.

<sup>735</sup> Ibid 216.

I suggest that in relation to medicalisation of intersex and trans minors, all three domains of social control are deployed to construct, disseminate and reinforce an ideology that naturalises and essentialises binary sex. As Davis et al argue,

... [Medical] providers often approach intersex and trans bodies through essentialist ideologies about sex, gender, and sexuality, which hold that sex is a binary biological phenomenon correlated with gender identity and sexuality.<sup>736</sup>

Medicalisation is also driven by the expansion of our concepts of health into more nebulous states such as well-being and the realisation of happiness. The World Health Organisation defines health as a 'state of complete physical, mental and social well-being.'<sup>737</sup> An expansive concept of health creates an expansive concept of ill-health and pathology. Health becomes aligned with normality and ill health with deviance and abnormality. 'Nineteenth century medicine...was regulated more in accordance with normality than with health.'<sup>738</sup> This generates a medical bipolarity between normal and pathological.<sup>739</sup>

Medicalisation was once seen as the illegitimate expansion of medical authority into the domains of quotidian life, a process of empire-building and territorial claims by medical professionals.<sup>740</sup> Sociologists no longer adhere to that conception of what drives medicalisation, and instead identify the process as complex and multi-faceted – 'a fluid and mutable dynamic whose causes and effects must be analyzed rather than assumed.'<sup>741</sup> Tone reminds us that medicalisation is *a priori* neither good nor bad, neither empowering nor disempowering of its

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<sup>736</sup> Georgiann Davis, Jodie M Dewey and Erin L Murphy, 'Giving Sex' (2016) 30(3) *Gender & Society* 490, 492.

<sup>737</sup> WHO, Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948, 100.

<sup>738</sup> Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (A M Sheridan Smith trans, (Vintage Books, 1994), 35.

<sup>739</sup> Ibid 35.

<sup>740</sup> Ivan Illich, *Limits to medicine: medical nemesis-the expropriation of health*. (Marion Boyars, 1975).

<sup>741</sup> Andrea Tone, 'Medicalizing Reproduction: The Pill and Home Pregnancy Tests' (2012) 49(4) *The Journal of Sex Research* 319. 319.

subjects.<sup>742</sup> Despite Rose's claim that the concept of medicalisation implies passivity on the part of the medicalised<sup>743</sup> the process is often deployed strategically by the medicalised for various reasons, from affirming identity categories to accessing medical technology. As an example, many trans people seek access to medical technology to transform their sexed embodiment. The medicalisation of trans has become essential to accessing medical technology and expertise. As Vipond notes, '[w]hile to be "normal" is to fall within a statistical range known as the mean or average, through medicalization these normalcies become biological "truths" of what a person should be.'<sup>744</sup>

### 5.5.4 Therapeutic and non-therapeutic

The concept of medicalisation provides a useful framework for understanding the establishment of a protective jurisdiction within the Australian Family Court in order to monitor and scrutinise medical procedures that encompass significant non-biomedical concerns. It also provides a context for teasing out a central issue within the jurisprudence of the special medical jurisdiction, which is the distinction between therapeutic and non-therapeutic medical procedures.

In *Marion's Case*, the majority expressed some reluctance to adopt this distinction, but did adopt it nevertheless.

But first it is necessary to make clear that, in speaking of sterilization in this context, we are not referring to sterilization which is a byproduct of surgery appropriately carried out to treat some malfunction or disease. We hesitate to use the expressions "therapeutic" and "non-therapeutic", because of their

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<sup>742</sup> Ibid.

<sup>743</sup> Nikolas Rose, 'Beyond Medicalisation' (2007) 396(9562) *the Lancet* 700, 702

<sup>744</sup> Evan Vipond, 'Resisting transnormativity: Challenging the medicalization and regulation of trans bodies' (2015) 8(2) *Theory in Action* 21, 23.



uncertainty. But it is necessary to make the distinction, however unclear the dividing line may be.

As a starting point, sterilization requires invasive, irreversible and major surgery. But so do, for example, an appendectomy and some cosmetic surgery, both of which, in our opinion, come within the ordinary scope of a parent to consent to.<sup>745</sup>

The distinction is problematic beyond the lack of clear dividing lines between therapeutic and non-therapeutic. Where particular conditions have been pathologised and deeply medicalised, the problem is more extensive than drawing a bright clear line between the two. It is repeatedly emphasised in the cases that a procedure that sterilises in the course of treating an illness, injury or condition that threatens the health or life a patient is not contentious, and falls within the scope of parental authority. Even the high watermark case of *Re Eve*<sup>746</sup> explicitly exempts therapeutic sterilisation from the prohibition:

I have no doubt that the jurisdiction may be used to authorize the performance of a surgical operation that is necessary to the health of a person, as indeed it already has been in Great Britain and this country. And by health, I mean mental as well as physical health. In the United States, the courts have used the *parens patriae* jurisdiction on behalf of a mentally incompetent to authorize chemotherapy and amputation, and I have little doubt that in a proper case our courts should do the same.<sup>747</sup>

In *Re Eve*, the stated purpose of the sterilization procedure was contraceptive. As the appellant agreed that contraceptive sterilization was non-therapeutic, the basis of the distinction between therapeutic versus non-therapeutic procedures was assumed rather than explored or even defined, although some attempt was made to flesh out the distinction:

The foregoing, of course, leaves out of consideration therapeutic sterilisation and where the line is to be drawn between therapeutic and non-therapeutic

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<sup>745</sup> *Marion's Case* (n 659), 250.

<sup>746</sup> *Re Eve* (n 676).

<sup>747</sup> *Ibid* 427.

sterilisation. On this issue, I simply repeat that the utmost caution must be exercised commensurate with the seriousness of the procedure.<sup>748</sup>

In *Re B (A Minor)(Wardship: Sterilisation)*,<sup>749</sup> Lord Hailsham rejected the distinction adopted in *Re Eve* as meaningless:

I find the distinction they purport to draw between therapeutic and non-therapeutic purposes of this operation in relation to the facts of the present case above as totally meaningless, and if meaningful, quite irrelevant to the correct application of the welfare principle.<sup>750</sup>

Lord Oliver did not go so far as to describe the distinction as meaningless. Rather, his criticism focussed on whether it was helpful and relevant in the case.<sup>751</sup> Both judges rejected the distinction as a distraction from the issue of whether the procedure was in the minor's welfare.

In *Re Jane*, Nicholson CJ defined "'therapeutic'" as connoting the treatment of some disease or malfunction.<sup>752</sup> Further in his decision, Nicholson discusses in more detail the nature of the distinction:

A problem may emerge in disentangling therapeutic from non-therapeutic aims, assuming that therapeutic procedures are defined, as Lord Oliver did, as connoting the treatment of some malfunction or disease, because there may be mixed aims associated with a particular procedure.<sup>753</sup>

In *Re S*, while there was no explicit discussion of whether the distinction is meaningful, Simpson J argued that prevention of menses could be constructed as therapeutic:

I am not entirely sure that I agree with the description of a hysterectomy in relation to this child as being completely non-therapeutic. In my view, as I

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<sup>748</sup> Ibid.433-434.

<sup>749</sup> *Re B (A Minor)(Wardship: Sterilisation)* [1987] 2 WLR 1213.

<sup>750</sup> Ibid.

<sup>751</sup> Ibid.

<sup>752</sup> *Re Jane* (1988) 94 FLR 1, 10.

<sup>753</sup> Ibid, 30-31.

have already indicated, menstruation is likely to significantly impair the child's quality of life.<sup>754</sup>

In *Re a Teenager*, Cook J describes the arguments of the experts called on behalf of the child: 'These witnesses also were strongly opposed to hysterectomy because it involved the removal of a healthy organ from the body and was therefore a "non-therapeutic" operation.'<sup>755</sup> This is a very crude conception of therapeutic procedures, premised on whether the tissue or organ itself is healthy. This strategy of conflating the 'health' of a procedure with the 'health' of the tissue removed is adopted in other discourses such as female genital mutilation and cosmetic surgery.<sup>756</sup> The propriety of the surgery is evaluated by reference to the health of the tissue itself. Removal of healthy organs, healthy tissue or healthy limbs is depicted as a betrayal of the body. It is a polemic means to legitimate or de-legitimate medical procedures and is adopted in much of the rhetoric on these issues.

This overview of the significant cases on sterilisation indicate that the therapeutic/non-therapeutic distinction was assumed to be valid and meaningful, even though as a key concept there is very little scrutiny or examination of it. The notion of therapy and therapeutic is slippery and malleable. Once an issue or problem has been medicalised, then medical treatment in response to that problem is marked as therapeutic. The process can also work in reverse, so that medical treatment in response to a non- problem - for example, consumer demand for cosmetic surgery - is constructed as therapeutic in order to justify performing it. As the rhetoric of therapy is more broadly adopted, the issue is subsumed as a medical issue. For example in cosmetic surgery such as a 'face lift' the somatic technology was developed and widely adopted to satisfy non-medical desires and demands from consumers, and therapeutic

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<sup>754</sup> Attorney-General (Qld) v Parents (Re S) (1989) 98 FLR 41, 50.

<sup>755</sup> *Re a Teenager* (1988) 94 FLR 181.

<sup>756</sup> A Kennedy, 'Mutilation and Beautification' (2009) 24(60) *Australian Feminist Studies* 211.

justifications followed.<sup>757</sup> The beauty project thus became absorbed into the medical realm. In medical rhetoric, what appears to be a straightforward biomedical evaluation is riven with normative evaluations and unexamined assumptions.<sup>758</sup>

Medical intervention to relieve gender dysphoria is another example of patient-led treatment and medicalisation. As the technology and expertise has developed to allow trans people to alter aspects of their sexed embodiment, access to these medical interventions at the behest of the trans person has been normalised, even while the transgender experience was pathologised. The medical profession has established itself as gatekeepers of access to somatic technology. The pathology of gender dysphoria has been crafted to justify deployment of the technology as medical treatment. In 2015 the 5<sup>th</sup> edition of the DSM amended the name of the condition and its position in the DSM to de-pathologise the experience of trans and instead focus the pathology on the distress experienced by the dissonance between identity and sexed embodiment.<sup>759</sup> That way, medical intervention can continue to be constructed as treatment, without the overt pathologisation of all gender questioning or gender diverse identities.

The problems with the therapeutic/non-therapeutic distinction are not limited to a blurred dividing line where some few procedures may be difficult to place unambiguously on one side of the line or the other. The distinction itself is deeply flawed, as the apparently objective and scientific criteria of therapy are deeply embedded in cultural and subjective constructions.

This distinction becomes even more problematic when used to distinguish therapeutic from non-therapeutic interventions which impact on sexed embodiment. As Davis et al note, '[m]edicine...holds particular sway in producing and obscuring ideologies about sex, gender,

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<sup>757</sup> A Kennedy, 'Slice them up or Slice Them Out? Legal Liability for operating on the troublesome patient in cosmetic surgery' (2015) 23(1) *Journal of Law and Medicine* 121.

<sup>758</sup> Ibid.

<sup>759</sup> American Psychiatric Association, *DSM-V* (n 33)

and sexuality.<sup>760</sup> The ability to obscure ideology that constructs some sexed bodies as pathological and in need of 'unifying transformation'<sup>761</sup> has been effective in keeping medical interventions on intersex children out of the Australian Family Court.<sup>762</sup>

However reluctantly, Marion's Case unequivocally established the therapeutic/non-therapeutic distinction as a threshold test for the requirement of court authorisation. The distinction has troubled and disrupted the jurisprudence since the establishment of the special medical jurisdiction and has been used successfully to reduce the scope of the jurisdiction, as discussed in Chapter 6 and Chapter 7 below.

## 5.6 Key Principles and Rights

### 5.6.1 Right to reproduce

The cases frequently reference a right to reproduce or to make procreative choices as a ground for identifying sterilisation as a special case outside parental authority. In bioethical literature, the right to reproduce is debated in the context of access to reproductive technologies rather than to sterilisation. In that context, there is discussion about the grounds on which a right to reproduce is based, as well as the meaning that such a right might have. Quigley argues that the key component of a right to reproduce is the intention to rear.<sup>763</sup>

On this formulation, reproduction is valued not as a mechanism for passing on one's genes, but for the experiential significance of the child-rearing process. It recognizes that having and raising children is part of the definition of a good life for many people.<sup>764</sup>

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<sup>760</sup> Davis, Dewey and Murphy, (n 736), 491.

<sup>761</sup> In the words of Hausman (n 74).

<sup>762</sup> Aileen Kennedy, 'Fixed at Birth: Medical and Legal Erasures of Intersex Variations' (2016) 39(2) *UNSW Law Journal* 813.

<sup>763</sup> Muireann Quigley, 'A Right To Reproduce?' (Pt Blackwell Publishing Ltd) (2010) 24(8) *Bioethics* 403.

<sup>764</sup> *Ibid* 406.

This is also key for Steinbock, who maintains that the right to reproduce is really a right to have one's own children to rear.<sup>765</sup> However, there is one important qualification to this. She maintains that any right to reproduce be restricted to those with an interest and the *ability* to raise the child.

If the right to procreate entails the ability to rear - and I argue that it does - then severely retarded people do not have a right to reproduce. Involuntary sterilization is not wrong because it violates their procreative autonomy, although it might be wrong for other reasons (e.g., subjecting them to risky, painful, or unnecessary surgery).<sup>766</sup>

A competing conceptualisation might be a right to genetic procreation, ie a right to reproduce which is distinct from a right to parent children. However, very few commentators would be prepared to support a general right to genetic procreation, unattached to an intention to parent.

In *Re Eve*, the Appeal Court describes sterilisation as removing 'from a person the great privilege of giving birth'.<sup>767</sup> The right to reproduce is described in similar terms in *Re Grady*: 'Sterilisation may be said to destroy an important part of a person's social and biological identity — the ability to reproduce.'<sup>768</sup> The Court elaborated further later in the judgment:

Any legal discussion of sterilization must begin with an acknowledgment that the right to procreate is "fundamental to the very existence and survival of the race." *Skinner v. Oklahoma*. This right is "a basic liberty" of which the individual is "forever deprived" through unwanted sterilization.<sup>769</sup>

In *Re a Teenager*, Cook J acknowledges the right to reproduce in poetic terms. 'The fearful curses King Lear called down upon his "ungrateful" Cordelia are perhaps the best example of

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<sup>765</sup> Bonnie Steinbock, 'Reproductive Rights and Responsibilities' (1994) 24(3) *The Hastings Center Report* 15.

<sup>766</sup> *Ibid* 15.

<sup>767</sup> *Re Eve* (n 676) [79].

<sup>768</sup> *Grady: In the Matter of Lee Ann Grady*, 426 NH A 2d 467 (Supreme Court of New Jersey, 1981).

<sup>769</sup> *Ibid*.

how dearly and precious our society upholds the right of women to bear children.’<sup>770</sup> In *Re Jane*, Nicholson comments that ‘It appears that in England the courts have also recognised a right to reproduce.’<sup>771</sup> In *Re D (A Minor)* Heilbron J said:

The type of operation proposed is one which involves the deprivation of a basic human right, namely the right of a woman to reproduce and therefore it would, if performed on a woman for non-therapeutic reasons and without her consent, be a violation of such right.<sup>772</sup>

This is a doubtful proposition, and Nicholson acknowledges that the argument has been criticised. ‘[S]uch a “right” does not appear to have been explicitly recognised in international humanitarian law and suggest that the right concerned in cases such as this, is not a right to reproduce as such, but rather an aspect of the right to determine what is done with one's own body.’<sup>773</sup> In other words, this is better conceptualised as a right to bodily autonomy.

Later, Nicholson quotes from the decision in *Re Grady*<sup>774</sup> and confirms this more nuanced conception of the right to reproduce: ‘I consider that the rights in question may be better characterised as liberties to reproduce or not reproduce as the case may be.’<sup>775</sup>

In *Re B* Lords Oliver and Hailsham critique the idea of a right to reproduce:

To talk of the 'basic right' to reproduce of an individual who is not capable of knowing the causal connection between intercourse and childbirth; the nature of pregnancy; what is involved in delivery; unable to form maternal instincts or to care for a child, appears to me wholly to part company with reality.<sup>776</sup>

Although this quote essentialises the nature of disability and offers a reductive understanding of a complex issue, it does raise some valid questions about the extent to which the right to

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<sup>770</sup> *Re a Teenager* (1988) 94 FLR 181 197-198.

<sup>771</sup> *Re Jane* (1988) 94 FLR 1, 9.

<sup>772</sup> *Ibid*, 9.

<sup>773</sup> *Re Jane* (1988) 94 FLR 1, 10.

<sup>774</sup> *Grady: In the Matter of Lee Ann Grady*, 426 NH A 2d 467 (Supreme Court of New Jersey., 1981).

<sup>775</sup> *Re Jane* (1988) 94 FLR 1, 11.

<sup>776</sup> *Re B (A Minor)* [1987] 2 All ER 206.

reproduce is valorised in the overblown rhetoric around protecting the human rights of people with developmental disability.

A recurring theme linked to the right to reproduce is that sterilisation violates the natural biological functioning of a woman, thus undermining and eroding identity. A commentator from *Women With Disabilities* argues that:

People feel violated, they feel that they're not a real woman. These are the things that people have told us when they've spoken about their experiences. They feel very alienated from other women. They have difficulty establishing relationships with men.<sup>777</sup>

Douse sees menstruation and reproductive capacity as 'part of being a woman'.

Many feminist commentators have expressed concern about the identification of womanhood with reproductive capacity, arguing that this emerges from patriarchal imaging of woman as reproductive vessels, whose value and meaning is determined biologically.

Reproduction, in our culture, remains paramount for women: it is the role that continues to define them as productive members of society . . . As Kathryn Pauly Morgan contends (1989), the extreme value society and the state place upon motherhood greatly influence the consciousness of women and their attitudes toward conception and reproduction. This societal valuing of motherhood is problematic in that it precludes valuing women in certain other ways (that is, as valuable human beings beyond their reproductive capabilities).<sup>778</sup>

Support for a right to reproduce is highly gendered.<sup>779</sup> Similarly, feminist analysis of gender as a category does not assume as its starting point a fixed and knowable reality which can be understood through theorisation, but as a construct that requires renewal and reiteration. The construction and renewal of women's identity within a pro-natalist paradigm is highly problematic from a feminist perspective. Conceptualising the problem with involuntary sterilisation as a breach of a right to reproduce reinforces the pro-natalist stance that women's biological reproductive capacity is central to valid identity. The gendered nature of rhetoric

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<sup>777</sup> Ibid 22.

<sup>778</sup> Jennifer A Parks, 'On the Use of IVF by Post-Menopausal Woman' (1999) 14(1) *Hypatia* 77. 85-86.

<sup>779</sup> See also discussion on biomedical attitudes to fertility in intersex minors at 4.5.4 and 7.5.



about reproduction and fertility is explored further in relation to intersex minors in section 7.5 below. There it is noted that a right to fertility or a right to reproduce is seen as more compelling for girls than for boys, though for intersex children, the right to fertility is seen as less important than the need for somatic transformation.

### 5.6.2 Bodily integrity

Sterilisation of women with intellectual disabilities is criticised because it offends the common law principle and human right of bodily inviolability. This is a meaningful explanation of why involuntary sterilisation needs to be strictly controlled and limited. Although bodily integrity is sometimes described as bodily autonomy, that description is problematic in the context of people with intellectual disability. Autonomy seems to invoke a need for capacity. Bodily integrity exists independently of any exercise of autonomy. Fox and Thomson argue for a new model of bodily integrity they call ‘embodied integrity’, which can be deployed to contest parental rights to make irreversible decisions to modify the bodies of their children- particularly significant in the context of both involuntary sterilisation and intersex embodiment.<sup>780</sup>

A conventional understanding of bodily integrity, developed in the context of individualised rights to protection from interference, is ‘grounded in a mind/body dichotomy that prioritizes the physical body, conceptualized as bounded territory or property to be policed and defended against the encroachment of others.’<sup>781</sup> Bodily inviolability, within this framework, is breached constantly, whether we are able bodied or otherwise.

Rather than an absolute imperative or sacrosanct human right, it is a principle which is highly conditional and tenuous. In other words, the right to bodily integrity is a contingent, conditional right which often gives way to pragmatic considerations. As noted in *Marion’s case*, the principle of bodily integrity is subject to the realities of everyday life:

In *Collins v Wilcock* . . . it was said that in respect of physical contact arising from the exigencies of everyday life – jostling in a street, social contact at parties and the like – there is an implied consent by all who move in society

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<sup>780</sup> Fox and Thomson, (n 404), 503.

<sup>781</sup> Ibid.

and so expose themselves to the risk of bodily contact, or that such encounters fall within a general exception embracing all physical contact which is generally acceptable in the ordinary conduct of daily life. (references omitted)<sup>782</sup>

Where the person is a child or suffers from a disability such that they depend more than others on the intervention of helpers, the principle of bodily integrity is superseded by need more frequently than for many of us. This is not to suggest that the principle is inapplicable simply because it is contingent. It seems likely that the need for respect for bodily integrity is even greater where more physical intervention occurs on a day to day basis, as for those who require a high level of physical care and intervention. As Jackson et al argue, 'The space within which autonomy may be exercised will always perhaps be comparatively small, but I would argue that possessing some control over the direction of one's life is a necessary constituent part of a 'good' or agreeable existence.'<sup>783</sup> Reconceptualising the concept as embodied integrity removes it from the contested space of liberal notions of autonomy as boundaries against others, and ties it to a 'rich and nuanced account of our inevitable interdependence.'<sup>784</sup>

Disability-rights advocates raise a variety of concerns about sterilization. One underlying theme of many of the arguments is that less invasive procedures may be available to control menstruation and contraception. Such arguments rely on the principle of bodily integrity. Hysterectomy is characterised as highly invasive and, in furtherance of non-therapeutic ends, unjustified

While a single deeply invasive and serious intervention can seem more of a violation, it may be that multiple minor invasions, carried out more frequently and even routinely, may be more

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<sup>782</sup> Ibid 233.

<sup>783</sup> Emily Jackson, Volmar Gessner and David Nelken *Regulating Reproduction: Law, Technology and Autonomy* (2001, Bloomsbury Publishing), 5.

<sup>784</sup> Ibid.

harmful in terms of breaching bodily integrity. The issues of bodily integrity, particularly in the context of highly invasive procedures, often requiring repeated interventions and further corrections over months and years, is highly relevant to the issues faced by intersex people as a result of medicalisation of intersex variations.<sup>785</sup>

The concept of bodily integrity is of immense value in conceptualising the need for scrutiny of body-shaping interventions on children. However, its deployment has been asymmetrical and blinded to cultural, religious, gendered and political constructs. As Fox and Thomson note, 'bodily integrity is valorized or disregarded according to a complex matrix encompassing the subject's gender, race, religion, and culture and, crucially, how far that culture is perceived as mainstream...'<sup>786</sup> A turn to embodied integrity may be a means to step outside that complex matrix.

## 5.7 Conclusion

In this chapter I have provided an analysis of Marion's Case, and explored the background to the case. The development of the special medical jurisdiction was a powerful mechanism for protecting the human rights of children with disabilities and is unique to Australian jurisprudence. Factors which have contributed to the development of this jurisprudence include the involvement of vigorous intervenors in the proceedings; the consequent adversarial approach to the evidence; the growing awareness of sterilisation practices endemic in medical responses to girls with intellectual disabilities; the conscious challenge to a parent-focussed agenda; and a developing human rights framework which enlivened the public debate and the litigation. In the next two chapters, I analyse the case law on trans minors and intersex minors emerging out of this jurisdiction.

The role of intervenors in ensuring that contested and controversial medicalised procedures are properly challenged in the Australian Family Court is of central importance in the failure of the

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<sup>785</sup> See discussion in chapter 4 at 2.2.2.3.

<sup>786</sup> Fox and Thomson, (n 404), 504.

Court to protect the interests of minors with intersex variations. The example of the involuntary sterilisation cases is an important reminder that an adversarial framework can be an important procedural protection against medicalisation of particular issues, which can attenuate challenges to the medical paradigm.

The development of a disability rights framework, which locates disability in social and institutional structures rather than as an embodied individual defect is another significant factor that impacted on the judicial response to involuntary sterilisation. The same framework, emphasising human rights and challenging a parent-focussed perspective, is important in demedicalising social, legal and institutional responses to intersex variations.

The analysis in this chapter has established the legal context for the cases analysed in the next two chapters, and has provided alternate frames of reference which have been available to the Australian Family Court judiciary, but which have not been adopted in subsequent jurisprudence.

## Chapter 6 Trans in the Australian Family Court

### 6.1 Introduction

Following Marion's case, the Australian Family Court developed the scope of the special medical jurisdiction. Principles and issues relating to sterilisation cases were refined and settled.<sup>787</sup> The parameters of the jurisdiction were extended to bone marrow transplant,<sup>788</sup> termination of pregnancy,<sup>789</sup> medical interventions on intersex children,<sup>790</sup> and treatment for gender dysphoria.<sup>791</sup> This chapter will focus on the latter category of cases. The jurisprudence of the special medical jurisdiction has been dominated by the gender dysphoria cases which have, since 2003, outstripped all other medical interventions in terms of the number of applications. As stated in *Re Kelvin*, '[b]etween 31 July 2013 and 16 August 2017 the Australian Family Court has dealt with 63 cases involving applications for either stage 2 or stage 3 treatment for Gender Dysphoria.'<sup>792</sup> The frequency of applications for treatment for gender identity disorder or gender dysphoria spiked after 2014, with fewer than 15 heard in the 11 years up to 2015, and more than 60 heard 2015-2017.

The gender dysphoria cases are constructed in *Re Kelvin*<sup>793</sup> as presenting gradual development over time as the medical and scientific understanding of sex and gender development in minors has progressed and improved.<sup>794</sup> This narrative of gradually developing and improving

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<sup>787</sup> *P v P (No 2)* (1994-1995) 19 Fam LR 1).

<sup>788</sup> *GWW and CMW* (1997) 92 FLC 748; *Re: Inaya* [2007] FamCA 658.

<sup>789</sup> *Queensland v B* [2008] QSC 231.

<sup>790</sup> The first of these is *Re A* (n 209). See section 7.4.

<sup>791</sup> Beginning with *Re Alex* (2004) 180 FLR 89. In this chapter, medicalised terms for transgender and transsexuality are adopted in keeping with the language and approach of the courts.

<sup>792</sup> *Re Kelvin* (n 14) [50].

<sup>793</sup> *Ibid.*

<sup>794</sup> *Ibid* [152]-[164].

knowledge and understanding runs through previous cases<sup>795</sup> and is echoed in much of the medical literature on transgender identity development.<sup>796</sup> However, this rhetoric of evolution and advancement papers over significant rifts, gaps and disagreements about the nature of gender and gender identity, and particularly about how gender identity develops and stabilises in childhood and adolescence. It suggests that the developing consensus over treatment is attributable to improvements in bio-scientific research about the nature of gender identity development. This is a misreading of the history of medical and legal responses to childhood trans and gender dysphoria, which have been driven largely by significant cultural shifts and in response to effective lobbying by trans activists and allies who have pushed for much-needed improvements in acceptance and support. This will be explored in greater detail in the course of this chapter. A consensus about the most effective treatment has developed among medical treatment providers based on evidence derived from many years of experience in treating children with gender dysphoria.<sup>797</sup> While the issues are still riven with controversy and contention even within the medical establishment,<sup>798</sup> a dominant treatment protocol has emerged and is given authority in legal discourse.<sup>799</sup>

All of the Australian Family Court cases on gender dysphoria adopt a medicalised understanding of trans. Both medical and legal discourses acknowledge that the cases that come before the

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<sup>795</sup> *Re Jamie* (2013) 278 FLR 155.

<sup>796</sup> See, for example, World Professional Association for Transgender Health (WPATH), *Standards of Care for the Health of Transsexual, Transgender and Gender Nonconforming People* (World Professional Association for Transgender Health, 7 ed, 2011). 8.

<sup>797</sup> See for example R Costa and M Colizzi, 'The effect of cross-sex hormonal treatment on gender dysphoria individuals' mental health: a systematic review' (2016) 12 *Neuropsychiatric Disease and Treatment* 1953; Annelou L C de Vries et al, 'Young Adult Psychological Outcome After Puberty Suppression and Gender Reassignment' (2014) 134(4) *Pediatrics* 696.

<sup>798</sup> See for example the history of dispute between Dr Kenneth J Zucker and his one-time employer, Toronto's Centre of Addiction and Mental Health (CAMH). See also Michael K Laidlaw et al, 'Letter to the Editor: "Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline"' (2019) 104(3) *Journal of Clinical Endocrinology and Metabolism* 686. See also the controversy surrounding the issue of 'desisters' – people who have transitioned from natal sex to the 'opposite' sex, and then rejected the transition and reverted to natal sex. Tey Meadow, 'The Loaded Language Shaping the Trans Conversation' *The Atlantic* (Online, July 11 2018) <https://www.theatlantic.com/family/archive/2018/07/desistance/564560/>; Jesse Singal, 'How the Fight Over Transgender Kids Got a Leading Sex Researcher Fired', *The Cut*, (Online, February 7, 2016) <<https://www.thecut.com/2016/02/fight-over-trans-kids-got-a-researcher-fired.html>>.

<sup>799</sup> Wylie C Hembree et al, 'Endocrine Treatment of Gender-Dysphoric/ Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline' (2017) 23(12) *Endocrine Practice* 1437.

Court represent a small and specific example of much broader experiences of gender diversity. The cases are self-selecting in that only significant medical interventions on minors attract the special medical jurisdiction. Although trans is diverse and complex, the cases that come before the Court all relate to minors who seek to medically transition and who have been medically and psychiatrically diagnosed and identified as suitable for medical intervention. The medical paradigm of transsexualism is not challenged in this discourse.

Minors who transition socially or who experience and perform gender diversity or non-binary identity without medical intervention have never needed the approval of the Australian Family Court. Similarly, minors who seek to medically transition but who do not meet the criteria of a medically recognised (DSM-categorised) condition are not able to transition medically and do not appear in these cases. Thus the discourse within the Australian Family Court is inherently narrow and restricted and represents only a portion of the community who identify as trans, non-binary or gender non-conforming. Similarly, the medical evidence presented in the cases only reflects a narrow and restricted portion of the medical approach to and understanding of trans. These limitations are inherent in the jurisdiction and must be acknowledged as directing and constraining the discourse and the discussion in this chapter.

That limitation impacts the extent to which the cases explore a more comprehensive or balanced account of trans people and their lived experiences and community. Instead, the focus is narrow and incomplete. Accordingly the discussion in this chapter, limited to an analysis of these cases and with attention to the jurisprudence, is focused on the extent to which it reflects and echoes brain organisation theory in its understanding and discussion of gender identity development.

### **6.1.1 Gender identity and gender dysphoria**

The body of literature on medical interventions to support people with gender dysphoria presents an uneven picture of the development of gender identity and causes of trans identity.

WPATH Standards of Care<sup>800</sup> avoids any discussion of the possible source or etiology of gender non-conformity. The Australian Standards of Care, published in 2018, similarly do not mention issues of cause or origin of gender identity. The focus is clearly and firmly confined to diagnosis and treatment options. In 2017 a number of leading American endocrinologists, including several scientists involved in research on brain organisation theory, such as Gooren, Cohen-Kettenis and T'Sjoen, published clinical practice guidelines for treatment of gender dysphoric and gender incongruent persons.<sup>801</sup> These clinical guidelines have been adopted and endorsed in Australia.<sup>802</sup> These guidelines very briefly discuss the dynamics involved in gender identity development and explicitly acknowledge that factors beyond the organising effects of prenatal androgens influence gender identity:

Results of studies from a variety of biomedical disciplines—genetic, endocrine, and neuroanatomic—support the concept that gender identity and/or gender expression likely reflect a complex interplay of biological, environmental, and cultural factors.<sup>803</sup>

Steensma et al similarly conclude that '[i]n contrast to what was long assumed, it is therefore unlikely that androgens influence gender identity in a very simple and direct way.'<sup>804</sup> At the same time, some of the literature leans toward a biological explanation for gender identity development.<sup>805</sup> For example, Saraswat et al, cited in support of the above quote by Hembree et al, conclude that gender identity has a biological basis and do not consider the contribution

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<sup>800</sup> (WPATH), (n 796).

<sup>801</sup> Hembree et al, (n 799).

<sup>802</sup> The Guidelines are identified as the relevant clinical guidelines on the website of the Endocrine Society— see <<https://www.endocrine.org/clinical-practice-guidelines/gender-dysphoria-gender-incongruence>>

<sup>803</sup> Hembree et al, (n 799), 3874.

<sup>804</sup> Steensma et al, (n 242), 292; See also Stephen M Rosenthal, 'Approach to the Patient: Transgender Youth: Endocrine Considerations' (2014) 99(12) *The Journal of Clinical Endocrinology & Metabolism* 4379; Scott Leibowitz and Annelou L C de Vries, 'Gender dysphoria in adolescence' (2016) 28(1) *International Review of Psychiatry* 21.

<sup>805</sup> Chiara Manieri et al, 'Medical Treatment of Subjects with Gender Identity Disorder: The Experience in an Italian Public Health Center' (2014) 15(2) *The International Journal of Transgenderism* 53.



of non-biological factors.<sup>806</sup> Overall, the majority of this literature adopts the same strategy as WPATH and does not address the question of causes or origins of trans identity at all.<sup>807</sup>

While the data and conclusions from the medical literature focussed on treatment for trans people is mixed, ambivalent and inconclusive when considering whether gender identity is a purely biological phenomena, the brain organisation literature is less circumspect. This literature includes a lot of research looking for neurological indicators of trans identity. The research focus on trans identity is because, as Jordan-Young explains, where direct experimentation is impossible for ethical reasons, researchers approach the issue from two perspectives. First, cohort studies look at the impact of fetal androgens on people who have had an atypical exposure to androgens prenatally, such as intersex people. These studies examine gender identity, gender expression and sexual orientation of this cohort to gauge the impact of atypical hormone exposure on brain sex. The second type of research is where scientists have access to people whose sex or gender-related behaviour or identity is atypical or 'cross-sex.' These studies may look for evidence of atypical fetal hormone exposure or they may look for correlations thought to be linked to atypical fetal hormone exposure (such as digit ratio - the ratio between ring finger and index finger length<sup>808</sup> - or handedness<sup>809</sup>). Such studies often focus on participants who are gay, lesbian or trans. This literature includes many studies which compare neural morphology or activity of trans people and cisgender people.<sup>810</sup> Very often this

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<sup>806</sup> Saraswat, Weinand and Safer, (n 356).

<sup>807</sup> See, for example, William Byne et al, 'Report of the American Psychiatric Association Task Force on Treatment of Gender Identity Disorder' (2012) 41(4) *Archives of Sexual Behavior* 759; Henriette A Delemarre-van de Waal and Peggy T Cohen-Kettenis, 'Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects' (2006) 155(suppl 1) *European Journal of Endocrinology* S131; Cecilia Dhejne et al, 'Mental health and gender dysphoria: A review of the literature' (2016) 28(1) *International Review of Psychiatry* 44; Julia Cartaya and Ximena Lopez, 'Gender dysphoria in youth: a review of recent literature' (2018) 25(1) *Current Opinion in Endocrinology, Diabetes and Obesity* 44.

<sup>808</sup> Puts et al, (n 329).

<sup>809</sup> van Goozen et al, (n 236).

<sup>810</sup> Such as Beatriz Carrillo et al, 'Cortical activation during mental rotation in male-to-female and female-to-male transsexuals under hormonal treatment' (2010) 35(8) *Psychoneuroendocrinology* 1213; T Cohen-Kettenis et al, (n

research will focus on neural features or activities that are believed to be sexually dimorphic, such as lateralisation of brain activity or spatial rotation.<sup>811</sup> A common thesis is that the brains of male-to-female transsexuals will resemble the brains of cisgender women, or that female-to-male transsexuals have brain features more typical of men.<sup>812</sup>

Many early studies mention environmental or cultural factors but focus on biological factors. An early review from 1999 by Cohen-Kettenis and Gooren identifies some environmental factors that may contribute to the development of Gender Identity Disorder (or GID, as Gender Dysphoria was called at the time) but the relevant theories are noticeably reductive, crude and stereotypical.

Parental influences, such as extreme closeness to the mother (“blissful symbiosis”), atypical psychosexual development of the parents, (father absence), or parental dynamics (such as a maternal wish for a daughter) have been held responsible for the development of GID<sup>813</sup>

The psychodynamic perspective underpinning these theories arguably reflects the fact that the sources for these theories were all published between 1970 and 1995 and they offer an

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358); Tahiana Signorini Andreazza et al, 'Discordant Transsexualism in Male Monozygotic Twins: Neuroanatomical and Psychological Differences' (2014) 43(2) *Archives of Sexual Behavior* 399; Aneas Hahn et al, 'Structural Connectivity Networks of Transgender People' (2015) 25(10) *Cerebral Cortex* 3527; Giancarlo Spizzirri et al, 'Grey and white matter volumes either in treatment-naïve or hormone-treated transgender women: a voxel-based morphometry study' (2018) 8(1) *Scientific Reports* 736; Sven C Mueller et al, 'A Structural Magnetic Resonance Imaging Study in Transgender Persons on Cross-Sex Hormone Therapy' (2017) 105(2) *Neuroendocrinology* 123; Eileen Luders et al, 'Regional gray matter variation in male-to-female transsexualism' (2009) 46(4) *Neuroimage* 904; Lajos Simon et al, 'Regional grey matter structure differences between transsexuals and healthy controls--a voxel based morphometry study' (2013) 8(12) *PLoS One* e83947.

<sup>811</sup> See also discussion in 3.3.

<sup>812</sup> Berglund et al, (n 275); Carrillo et al, (n 810); Zubiaurre-Elorza et al, (n 237); Kruijver et al, (n 236); Luders et al, (n 810); Simon et al, (n 810); Elke Stefanie Smith et al, 'The transsexual brain – A review of findings on the neural basis of transsexualism' (2015) 59 *Neuroscience & Biobehavioral Reviews* 251; Cohen-Kettenis et al, (n 358); van Goozen et al, (n 236); Zhou et al, (n 214).

<sup>813</sup> P T Cohen-Kettenis and L J G Gooren, 'Transsexualism: A review of etiology, diagnosis and treatment' (1999) 46(4) *Journal of Psychosomatic Research* 315, 317.

outdated perspective.<sup>814</sup> The Cohen-Kettenis and Gooren article primarily focusses on biological causes, and suggests that

A supposed discrepancy between genital differentiation, on the one hand, and brain sexual differentiation, on the other hand, has been invoked as an explanation of the phenomenon of transsexualism.<sup>815</sup>

In other words, brain organisation theory suggests that genitals are sex differentiated early in pregnancy, but the sex differentiation of brain soma occurs later during the pregnancy, so that genitals (and genes and gonads) may be masculine but the brain becomes feminised, for example. As Smith et al note, '[r]esearch has put its focus on biological models of transsexualism' though they also note that the 'data are quite inhomogenous' and fail to provide clear evidence about the etiology of gender dysphoria.<sup>816</sup> In a more recent study, Guillamon et al posit that 'early-onset homosexual transsexuals have an intersex condition restricted to the brain'<sup>817</sup> and also speculate that Ray Blanchard's taxonomy of transsexuals, which distinguishes between homosexual and non-homosexual transsexuals, reflects brain differences in cortical thickness.<sup>818</sup> The sheer number of studies investigating and reporting neural correlates of transsexuality indicates a commitment to a neurological explanation for gender dysphoria.<sup>819</sup>

The evidence of brain differences between transsexuals and cisgendered people is complex and nuanced, but it is often interpreted and disseminated simplistically. For example, a study from 2018, published in *Endocrine Abstracts*, was said to provide evidence of two neurological

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<sup>814</sup> The psychodynamic approach also emerges in *Re Alex*, as discussed below at 6.2.1.

<sup>815</sup> Cohen-Kettenis and Gooren, (n 813) 318.

<sup>816</sup> Smith et al, (n 812) 252.

<sup>817</sup> Antonio Guillamon, Carme Junque and Esther Gómez-Gil, 'A Review of the Status of Brain Structure Research in Transsexualism' (2016) 45(7) *Archives of Sexual Behavior* 1615, 1627

<sup>818</sup> Ibid.

<sup>819</sup> See citations in footnotes 810 and 812, for example.

differences between trans and cisgender participants.<sup>820</sup> First, 'that hypothalamic responses of both adolescent girls and boys diagnosed with gender dysphoria were more similar to their experienced gender than their birth sex...' and second that testing grey matter (GM) and white matter volumes showed that 'GM volumes of both GD groups deviated from the volumetric characteristics of their birth sex towards those of individuals sharing their gender identity.'<sup>821</sup> This conclusion was then reported in a magazine under the heading 'Brain scan can tell kids if they're transgender, study shows.'<sup>822</sup> The same magazine article also referred to 'further research from March which showed trans people are born that way' and linked to another article by the same journalist in the same magazine, headed '[t]ransgender people are born that way, according to a new study.'<sup>823</sup> This earlier article reported on research published in *Scientific Reports*<sup>824</sup> which used MRI to test for sex differences in white matter and grey matter volume in the brain. The study concluded that 'both transgender groups exhibited lower bilateral insular GMVs [gray matter volumes] than the cisgender women group' but noted that these differences could 'be related to the neural network of body perception and reflect the distress that accompanies gender dysphoria' – in other words, such differences could reflect experiences and evidence neuroplasticity rather than innate congenital structures. Nevertheless, the lead investigator of the study is reported to have 'said that the result led them to believe that people are trans in the womb.'<sup>825</sup> These examples demonstrate a common

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<sup>820</sup> Julie Bakker, 'Brain structure and function in gender dysphoria' (2018) 56 *Endocrine Abstracts*.

<sup>821</sup> Ibid. The journal article, which was merely the abstract, did not provide details of the study design, cohort sizes, effect sizes etc. The research does not appear to have been published elsewhere, according to the author's profile at her affiliate institution; [https://www.giganeuroendo.uliege.be/cms/c\\_4751472/en/giganeuroendo-publications](https://www.giganeuroendo.uliege.be/cms/c_4751472/en/giganeuroendo-publications)

<sup>822</sup> Josh Jackman, 'Brain scan can tell kids if they're transgender, study shows' *Pink News*, (online, 22 May 2018) < <https://www.pinknews.co.uk/2018/05/22/brain-scan-can-tell-kids-if-theyre-transgender-study-shows/> >.

<sup>823</sup> Josh Jackman, 'Transgender people are born that way, a new study has found.' *Pink News* (online, 15 March, 2018) < <https://www.pinknews.co.uk/2018/03/15/transgender-people-are-born-that-way-a-new-study-has-found/> >.

<sup>824</sup> Giancarlo Spizzirri et al, 'Grey and white matter volumes either in treatment-naïve or hormone-treated transgender women: a voxel-based morphometry study' (2018) 8(1) *Scientific Reports* 736.

<sup>825</sup> Josh Jackman, 'Transgender people are born that way, according to a new study.', (n 823).

phenomena whereby complex and even ambivalent results are presented in a simplistic and inaccurate manner which fits within the ideological framework that is presented by the journalist.

### 6.1.2 Medical approaches to trans identity in children

Understanding the medicalised approach to transgender and transsexualism provides context for an understanding of the influence of brain-sex binary theories on legal regulation of trans identities. Gender dysphoria, understood as an acute sense of disparity between somatic sex and gender identity, was first introduced into the *Diagnostics and Statistical Manual of Mental Disorders* (DSM) third edition in 1980.<sup>826</sup> It was then termed 'gender identity disorder' and classified as a psychosexual disorder with a categorisation that was linked to sexual orientation. A revision of the 3<sup>rd</sup> Edition (DSM-III-R) in 1987 moved it out of the category of psycho-sexual disorders into the category of 'Disorders Usually First Evident in Infancy, Childhood, or Adolescence,' but retained the reference point of sexual orientation in sub-typing. Both iterations excluded late-onset transsexuality and strongly emphasised experiences in childhood.

The next edition of the DSM (DSM-IV) renamed the typologies as "Gender Identity Disorder in Children", "Gender Identity Disorder in Adolescents or Adults", and "Gender Identity Disorder Not Otherwise Specified" and repositioned it back into the section on sexual disorders.<sup>827</sup> A similar re-ordering and reconceptualisation was also happening with the *International Statistical Classification of Diseases and Related Health Problems* (ICD) with the publication of its 10<sup>th</sup>

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<sup>826</sup> American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 3 ed, 1980) ('*DSM-III*'). Other classification schemes such as the World Health Organisation, *International Classification of Diseases and Related Health Problems (ICD-10)* (10 ed, 2010) are relevant to the historical processes of medicalising transgender and absorbing it into the jurisdiction of medical and psychiatric expertise. The DSM is predominant in US and Australian clinical practice.

<sup>827</sup> American Psychiatric Association *DSM-V*, (n 39).

edition in 1990.<sup>828</sup> The criteria for inclusion within the diagnostic categories was largely based on the likely success of the medical transitioning process, judged on reported internal satisfaction and the ability to 'pass' as authentically male or female.<sup>829</sup> Particular narratives such as childhood onset, hatred of one's genitals, and the feeling of being born in the 'wrong body' were identified as positive indicators of suitability for treatment.<sup>830</sup> The emergence of other narratives of transpeople, including many who did not fit the model of the 'true transsexual' led to the extension of 'the diagnostic idiom in the DSM-IV to GID' in order to absorb a broader range of trans people within the medical framework.<sup>831</sup>

In a conscious attempt to de-pathologise and de-stigmatise the experience of transgender, the 5<sup>th</sup> and most recent edition of the DSM (DSM-V) applies the term 'gender dysphoria' and emphasises the distress experienced, rather than the identity of the person, as the relevant 'disorder.' Gender dysphoria refers to the distress that may accompany the incongruence between one's experienced or expressed gender and one's assigned gender. Although not all individuals will experience distress as a result of such incongruence, many are distressed if the desired physical interventions by means of hormones and/or surgery are not available.

Davy argues that 'the criteria proposed by the DSM-5 are derived from stereotypes, applied in the gender identity clinics serving transpeople, rather than empirically developed from biological imperatives.'<sup>832</sup> Despite the claim on the APA website that changes to the diagnostic

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<sup>828</sup> Jack Drescher, Peggy Cohen-Kettenis and Sam Winter, 'Minding the body: Situating gender identity diagnoses in the ICD-11' (2012) 24(6) *International Review of Psychiatry* 568.

<sup>829</sup> Zowie Davy, 'The DSM-5 and the Politics of Diagnosing Transpeople' (2015) 44(5) *Archives of Sexual Behavior* 1165, 1167

<sup>830</sup> American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders - IV* (4 ed, 1994) ('*DSM-IV*').

<sup>831</sup> This has been critiqued as an attempt to enlarge the clinical monopoly on transitioning practices - see Dwight B Billings and Thomas Urban, 'The Socio-Medical Construction of Transsexualism: An Interpretation and Critique' (1982) 29(3) *Social Problems* 266.

<sup>832</sup> Davy, (n 829). Davy cites stereotypes such as hatred of one's genitals and feeling that one was born in the wrong body.

criteria and categorisations are based on a 'comprehensive review of scientific advancements, targeted research analyses and clinical expertise' the existing literature is fraught with disagreement, disparity and contestation. For example the work of two members of the workgroup tasked with reviewing the DSM category of gender identity disorder, Ray Blanchard and Kenneth Zucker, has been highly contentious and controversial.<sup>833</sup> Davy argues that the literature which was heavily relied on by the working group is largely confined to the work of a 'select group of sexologists who are generally supportive of each other's work.'<sup>834</sup> Much of the biological research into the neurological correlates of gender identity is controversial, contested and indeterminate, as outlined in **Error! Reference source not found.**<sup>835</sup>

All of these changes to the diagnostic categories in the DSM are relevant to the medical, legal and broader cultural understanding of gender diversity but the detailed implications of each change is beyond the scope of this thesis. It is sufficient to note that each change reflects a shift in the cultural understanding of gender dysphoria relative to issues such as sexuality and identity. While the diagnostic criteria for GID and GD vary somewhat between editions, all iterations rely on stereotypical gender performance. The current (DSM-V) diagnostic criteria for gender dysphoria in children are as follows:

#### Gender Dysphoria in Children

- A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least six of the following (one of which must be Criterion A1):
  1. A strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender).
  2. In boys (assigned gender), a strong preference for cross-dressing or simulating female attire; or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing.

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<sup>833</sup> See, for example, Charles Moser 'Blanchard's Autogynephilia Theory: A Critique', (2010) 57(6) *Journal of Homosexuality*, 790-809; Jemma Tosh, 'Zuck Off'! A commentary on the protest against Ken Zucker and his "treatment" of Childhood Gender Identity Disorder' (2011) 13(1) *Psychology of Women Section Review*, 10.

<sup>834</sup> Davy, (n 829) 1168.

<sup>835</sup> Swaab, (n 271); Garcia-Falgueras and Swaab, (n 460); Berglund et al, (n 275).

3. A strong preference for cross-gender roles in make-believe play or fantasy play.
  4. A strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender.
  5. A strong preference for playmates of the other gender.
  6. In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities.
  7. A strong dislike of one's sexual anatomy.
  8. A strong desire for the primary and/or secondary sex characteristics that match one's experienced gender.
- B. The condition is associated with clinically significant distress or impairment in social, school, or other important areas of functioning.<sup>836</sup>

While there are some differences and shifts of emphasis between the DSM-IV and DSM-V diagnostic criteria for childhood gender dysphoria,<sup>837</sup> these are not significant to this analysis.

Treatment protocols for childhood gender dysphoria have similarly shifted over the last two decades. Until about 1998, hormonal or other medical interventions were considered inappropriate for pre-pubescent children and even for older minors because it was felt that only in adulthood gender identity could be consolidated enough to allow for decisions regarding invasive interventions.<sup>838</sup> However, secondary sex characteristics develop in puberty and these can provoke significant distress and exacerbate dysphoria. Furthermore, if the development of secondary sex characteristics can be delayed or prevented, it is considered that this will make somatic transition easier in adulthood or late adolescence.

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<sup>836</sup> American Psychiatric Association, *DSM-V* (n 33) [302.6].

<sup>837</sup> In the discussion which follows, I will adopt the terminology of 'gender dysphoria' except when quoting from cases or sources which use different terminology.

<sup>838</sup> Kenneth J Zucker et al, 'Puberty-Blocking Hormonal Therapy for Adolescents with Gender Identity Disorder: A Descriptive Clinical Study' (2010) 15(1) *Journal of Gay & Lesbian Mental Health* 58.



Accordingly, the use of puberty suppressant hormone therapy became widespread, usually for adolescents up to 16 years of age. The physiological impact of the treatment is to halt pubertal development. When given before puberty, puberty does not occur. When given after the start of puberty, pubertal development does not proceed further unless and until the treatment stops.

Zucker et al outline the rationale for stage 1 treatment in pre-pubescent children. First, they argue that there is little evidence to support the effectiveness of psychological intervention in reducing stress and dysphoria.<sup>839</sup> Second, by preventing the development of secondary sex characteristics, the sense of dissonance and incongruity is reduced. Third, this in turn makes it easier for adolescents to pass in the cross-gender identity, which also reduces stress. Finally, it buys time for the minor to explore their developing gender identity.<sup>840</sup> A further rationale is that early intervention allows more satisfactory outcomes if the GD persists into adulthood. As Cohen-Kettenis et al comment, 'Looking like a man (woman) when living as a woman (man) creates barriers that are not easy to overcome. This is obviously an enormous and lifelong disadvantage.'<sup>841</sup> Puberty blocking hormone therapy is physiologically reversible, in the sense that puberty will commence or re-commence if treatment is stopped. In cases concerning gender dysphoria, puberty-blocking hormone treatment is referred to as stage 1 treatment. In 2016 the Australian Family Court resolved that stage 1 treatment no longer required Court authorisation.<sup>842</sup>

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<sup>839</sup> Ibid.

<sup>840</sup> Ibid.

<sup>841</sup> Delemarre-van de Waal and Cohen-Kettenis, (n 807) S132.

<sup>842</sup> *Re Jamie* (n 795).

The implementation of stage 1 treatment is part of a broader treatment protocol sometimes referred to as the 'Dutch model'<sup>843</sup> and more commonly 'gender affirming hormone treatment.' This model is now the predominant model for treatment of gender dysphoria in minors.<sup>844</sup> The second stage in this protocol is cross-sex hormone therapy, meaning hormone therapy to masculinize or feminize the body. Stage 2 treatment is described by WPATH as 'partially reversible'. Some of the physiological effects of stage 2 can be reversed through surgery (for example, breast development) while others are not reversible (for example, voice deepening).<sup>845</sup>

Stage 3 interventions include surgical procedures such as chest surgery and genital surgery. WPATH recommends that genital surgery should not be done on minors.<sup>846</sup> No age limit is put on chest surgery, and this has been performed on minors with Australian Family Court approval.<sup>847</sup> In 2018, the Australian Family Court decided that stage 2 and 3 procedures did not require court approval, provided that the trans teenager's treating practitioners agree that the child is *Gillick* competent, and there is no controversy - in the sense of disagreement between the parents, the child and medical practitioners - regarding the procedure.<sup>848</sup> To date, the relevant cases all limit approval for surgical intervention to chest surgery for female-to-male transition.

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<sup>843</sup> Annelou L C de Vries and Peggy T Cohen-Kettenis, 'Clinical Management of Gender Dysphoria in Children and Adolescents: The Dutch Approach' (2012) 59(3) *Journal of Homosexuality* 301; Cohen-Kettenis et al, (n 358).

<sup>844</sup> (WPATH), (n 796).

<sup>845</sup> *Ibid* 18.

<sup>846</sup> *Ibid* 21.

<sup>847</sup> *Re Quinn* [2016] FamCA 617; *Re Tony* [2016] FamCA 936; *Re Leo* [2015] FamCA 50; *Re Lincoln (No 2)* [2016] FamCA 1071.

<sup>848</sup> *Re Kelvin* (n 14); *Re: Matthew* [2018] FamCA 161.

As exemplified by the WPATH Standards of Care, the Dutch model does not explicitly endorse any particular theory about the etiology of gender dysphoria or the mechanisms of gender identity development. This links to an assumption that any attempt to address the problem of dysphoria by altering the gender identity rather than the body is futile, which is consistent with the conclusions of Zucker et al outlined above.<sup>849</sup> Gender identity, once established, is understood as permanent, fixed and resilient against any attempt to alter it.<sup>850</sup>

Current approaches to treating gender dysphoria suggest that any attempt to change gender identity of children to match their somatic sex is not only futile, but also cruel, damaging and traumatic.<sup>851</sup> Such an attempt would not only be unsuccessful, but unethical. This is exemplified by recent legislation in Victoria which prohibits any therapy directed towards changing or suppressing a person's sexual orientation or gender identity.<sup>852</sup> This means that the only permissible response to gender dysphoria is gender affirmation therapy. This ethical stance is not necessarily driven by a belief that gender is a static biological artefact. Gender identity is widely accepted as fundamental to human consciousness and spirit. The ban on conversion therapy can also be explained by a conviction that mental health institutions and practices should not try to compel such a profound change to a person's inner self, which will alter an integral element of subjectivity. Thus there has been a growing momentum, culminating in prohibition of conversion therapy, against any treatment aside from gender affirmation therapy. While the momentum has been established by legitimate ethical considerations, these sit side by side with the orthodoxy that other treatment approaches are ineffective. This latter

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<sup>849</sup> Zucker et al, (n 838).

<sup>850</sup> Saraswat, Weinand and Safer, (n 356).

<sup>851</sup> See, for example, Dennis Thompson, *Transgender People Pressured On 'Conversion Therapy'* WebMD <<https://www.webmd.com/sex-relationships/news/20190830/transgender-conversion-therapy-common-potentially-harmful#1>>.

<sup>852</sup> *Change or Suppression (Conversion) Practices Prohibition Act 2020* (Vic).

rationale reflects a conviction that gender identity, once established, is not only stable but static and unchangeable.

Interestingly, neurological claims are emerging that gender identity is not static. Case and Ramachandra report on their research that supports the reports of bi-genderism, which they describe as ‘a recently formed sub-category of transgenderism, describing individuals who experience a blending or alternation of gender states.’<sup>853</sup> The researchers reject a non-biological explanation because of reports that the gender switching is involuntary and sometimes occurs at inopportune moments.<sup>854</sup> The study aims to provide a neurological explanation for the experiences of bi-gender people, who alternate or oscillate between two or more gender identities.

The Dutch model, or gender affirming treatment, suggests that for early-onset gender dysphoria, gender identity develops very early and that many children who experience gender dysphoria understand themselves to belong to that gender from their first experiences of gender itself. This idea emerges in the cases on trans minors, although this account is not uniform in the cases. However, the majority of the cases on trans emphasise very long-standing self-identification with the ‘opposite’ gender, often suggesting that this was present in the child’s earliest memories. In *Re Celeste* it is explained that ‘Celeste was born biologically male but for almost the entirety of her life has identified as female. From the time Celeste could talk she referred to herself as “Celeste”. She never referred to her male name.’<sup>855</sup>

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<sup>853</sup> L K Case and V S Ramachandran, ‘Alternating gender incongruity: A new neuropsychiatric syndrome providing insight into the dynamic plasticity of brain-sex’ (2012) 78(5) *Medical Hypotheses* 626, 626.

<sup>854</sup> I suggest this understanding of non-biological and cultural gender influences reflects my earlier analysis that cultural or psychological phenomenon are popularly considered to be matters of choice and within our voluntary control – see discussion at section 2.5.

<sup>855</sup> *Re Celeste* [2016] FamCA 305 [6].

Similar accounts appear in many of the cases. ‘From as early as nine months of age, Colin has identified and behaved as male rather than female.’<sup>856</sup> Many cases identify the emergence of a gender identity at around three years old. Where a minor expresses gender dysphoria at a later age this is usually explained as the later external manifestation of an internal understanding formed much earlier but not clearly understood or articulated. In *Re Dallas*, for example, Clearly J states that ‘Objectively he began identifying with the male gender at about 13 years. Subjectively he always thought he was a boy.’<sup>857</sup> In *Re Logan* it is said ‘[Logan] was aware of having female gender feelings since early in childhood although was unable to recognise these feelings as gender dysphoria since [sic] early in high school after reading more about this on the internet’.<sup>858</sup>

The language in many of the later cases suggests that the particular child had a gender identity different from their somatic sex right from birth. This has prompted a shift from saying that a child was ‘born male’ or ‘was female at birth’ to saying that a child was ‘assigned male at birth’ or ‘assigned female at birth.’ This language begins to appear in the cases in about 2015. It suggests, or leaves open the possibility, that these children are born with a gender identity which is at odds with their somatic sex. This is entirely consistent with, and I argue is driven by, the belief that gender identity develops in utero and is neurologically determined.

The medicalised approach is relevant in understanding the decisions of the Australian Family Court approving medical transitioning for intersex minors. In the early cases the judiciary relied heavily on medicalised accounts of how gender dysphoria develops. In later cases the emphasis has been on the claim that a medical consensus has developed globally concerning the appropriate treatment of transsexual minors.

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<sup>856</sup> *Re Colin* [2014] FamCA 449 [2].

<sup>857</sup> *Re Dallas* [2016] FamCA 1131, [6].

<sup>858</sup> *Re Logan* [2016] FamCA 87, [64].

### 6.1.3 The ‘born this way’ narrative

What I call the ‘born this way’ motto has become a dominant legal understanding of transgenderism. There are competing narratives, some of which emerge in the cases on trans minors, and some of which emerge in the cases on intersex minors.<sup>859</sup> In early trans cases, we see a competing narrative that assumes that gender dysphoria is essentially pathological, often emerging as a psychological response to childhood trauma and dysfunctional family dynamics, in particular confusion over sex roles and sexuality caused by dysfunctional behaviours within the family. This analysis will trace the emergence of these competing narratives, and argue that the born this way narrative has come to dominate the jurisprudence and currently drives both medical and legal responses to trans minors.

When Lady Gaga released a single from her third album in 2011 called *Born This Way* it was quickly adopted as an anthem for LGBT people.<sup>860</sup> As Lady Gaga sang at the 2017 Superbowl halftime show, ‘No matter gay, straight or bi, lesbian, transgendered life: I’m on the right track, I was born to survive.’ The ‘born this way’ motto has become a mantra of progressive attitudes to gender diversity and as an anthem for the LGBT community. Strategically, the motto is invoked to rebut a critical attitude adopted by conservative homophobic and transphobic campaigners that sexual and gender diversity is a lifestyle choice. It has been taken up in popular culture to express support and alliance with the LGBT community, even as an emerging cultural understanding of gender and sexuality increasingly emphasizes fluidity and diversity.<sup>861</sup> It has been influential in the developing legal jurisprudence on appropriate treatment for transsexual minors who seek approval for medical interventions to change their characteristics as a treatment for gender dysphoria.

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<sup>859</sup> These competing narratives are also explored in Chapter 7.

<sup>860</sup> I have not included other initials such ‘Q’ and ‘I’ in the acronym because in my view the ‘born this way’ narrative has not been important in explaining or justifying either Q as ‘questioning’ or Q as ‘queer,’ particularly given the use of ‘queer’ as a political or epistemological adjective. The motto is rarely used in relation to intersex, because intersex embodiment is so obviously congenital that it doesn’t require this rhetorical defence.

<sup>861</sup> Shon Faye ‘I’m trans, and I don’t care if we were ‘born this way.’ Neither should you’ *The Guardian* (Online, 2018 30 May) <<https://www.theguardian.com/commentisfree/2018/may/30/trans-born-this-way-transgender-prejudice-brain>>.

In this chapter, I refer to the ‘born this way’ narrative of gender identity. This narrative encompasses a number of features. The central feature is that gender identity is innate and fixed. Once established, it is resilient to change. Any attempt to change an established gender identity is doomed to fail, as well as being highly unethical. Another factor is the belief that gender identity is biological - probably neurological - and develops in utero, due to the mix of sex hormones to which the foetus is exposed. This ties in with the third feature, which is that humans are born with a particular gender identity already hard-wired.

The ‘born this way’ narrative does not necessarily assume that gender is binary. Some people may have a fluid gender identity, or a more complex sense of their own gender. Some people may not identify as either gender. Even in such cases, the rhetoric suggests that gender identity is established in utero, even if it is not fully understood or articulated until later in life. However, despite this potential for challenge to the model of binary sex, the continuity between the born this way narrative and brain-sex binary theories reinforces the sex binary.

The current medical stance on gender dysphoria is that gender diversity is a naturally occurring phenomenon which should attract a medical response only when it causes significant distress and dysfunction in daily life. Much of the public rhetoric, surfacing often in the medical literature and occasionally in the clinical literature, suggests a genetic and/or neurological explanation for gender diversity, including transsexualism and transgender.<sup>862</sup> The ‘born this way’ motto of LGBT advocacy exemplifies this idea that trans is an innate and inexorable experience of the body, and not attributable to trauma or dysfunctional family dynamics. As discussed in Chapter 2 and 3 **Error! Reference source not found.**, gender identity, when construed as a biological phenomenon, is configured as congenitally hardwired into the material soma of the brain. These are the predominant aspects of the ‘born this way’ narrative, which has gained significant traction in popular culture and which, I argue, has come to govern the medico-legal narrative of gender dysphoria. In section 7.4 of this chapter I will identify and

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<sup>862</sup> See for example Daniel Trotta, ‘Born this way? Researchers explore the science of gender identity’, *Reuters Science and Space*, (Online, August 3, 2017) <<https://www.reuters.com/article/us-usa-lgbt-biology-idUSKBN1AJ0F0>>.

explore how this narrative emerges in key cases approving treatment for gender dysphoric minors. The 'born this way' narrative is a manifestation of key elements of brain-sex binary theories.

The 'born this way' mantra can be a rhetorical resource to combat transphobic claims that trans people would choose to experience the pain of dysphoria. Whether intentionally or otherwise, the 'born this way' mantra suggests that once gender identity develops it is fixed and resistant to any change. It suggests that gender identity is congenital and innate. These factors themselves invoke a biological grounding for gender identity, because of the widespread perception that biology is innate, fixed, universal and pre-cultural.

Unsurprisingly, trans people have varying responses to theories of a brain-sex binary. For some, a biological account of gender identity development provides a convincing account of how gender diverse identities develop.<sup>863</sup> Others will use the bioessentialist paradigm strategically as a means to marshal support from allies and to rebut transphobic arguments from both right wing conservatives and gender critical feminists. Still others seek to reframe the debate and reject a nature/nurture dichotomy or rely on bio-essentialist theories.<sup>864</sup> Since trans people are a diverse and complex community, they do not have uniform response to such a fraught and tangled issue. Although in this chapter I discuss political and cultural tropes that are invoked in debates and discourse about transgenderism and gender identity, I do not suggest that tropes like 'born this way' are adopted and endorsed by all trans people or their allies, supporters or sympathisers. Although the 'born this way' mantra at times seems ubiquitous in progressive discourse in media and social media and is frequently invoked strategically, it does not represent the position of all gender diverse people. It does, however, symbolise a dominant perception that gender, including gender identity, is neurological in origin. This in turn invokes a brain-sex binary. In the next section I turn to the legal regulation, looking at the cases and

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<sup>863</sup> Rachael Wallbank, 'The Legal Status of People Who Experience Difference in Sexual Formation and Gender Expression in Australia' in Jens Scherpe (ed), *The Legal Status of Transsexual and Transgender Persons* (Intersentia, 2015).

<sup>864</sup> Shon Faye (n 861); Florence Ashley, 'If Gender Identity is Immutable, Do We Really Need to Know More?' (June 13, 2018) *Into*.< <https://www.intomore.com/impact/if-gender-identity-is-immutable-do-we-really-need-to-know-more/>>.



evaluating the extent to which they reflect brain-sex binary theories as directing the jurisprudence.

## 6.2 *Re Alex*

The first gender dysphoria case, *Re Alex*,<sup>865</sup> was heard ten years after Marion's case. *Re Alex* was an application for court authorisation for a minor to start medical treatment to transition from female to male. At the time of the application, Alex<sup>866</sup> was thirteen years old and a state ward. The proceedings were commenced by the government department responsible for his care and welfare. Alex had been diagnosed with Gender Identity Disorder,<sup>867</sup> though Nicholson J used the term 'dysphoria' throughout his judgment, stating that 'I think it questionable whether this condition is properly described as a disorder. I prefer the expression "dysphoria" which I think is a more accurate description.'<sup>868</sup>

The application was to allow Alex to undertake hormone therapy, beginning with stage 1 puberty blocking hormones. The application also presaged a later application for stage 2 treatment to commence in later years.

The case was complicated by Alex's difficult background and the fact that he was a ward of the state. Alex had had a very close relationship with his father but had a very poor relationship with his mother. His father died when he was five or six years old. Subsequently his mother and her new partner immigrated to Australia, but the relationship between Alex and his mother deteriorated over time and Alex was taken into care when he was 10 years old. This complex

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<sup>865</sup> *Re Alex* (2004) 180 FLR 89. Although *Re A* was heard earlier, involved similar medical interventions, and is sometimes described as a case involving a transgender minor, it is in fact a case involving an intersex minor, and is discussed in Chapter 7.

<sup>866</sup> All Family Court cases dealing with special medical procedures adopt pseudonyms for the minors involved.

<sup>867</sup> The terminology has changed over the years, as reflected in the various editions of the DSM.

<sup>868</sup> *Re Alex* (2004) 180 FLR 89 [2].

family dynamic was explored extensively in the psychiatric evidence, as providing a possible explanation for Alex's intense identification as male. Alex's background complicated the issue by suggesting the possibility that Alex's desire to change sex was not gender identity disorder, but an expression of psychiatric problems arising out of the dysfunctional relationship with his mother.<sup>869</sup>

### 6.2.1 Competing theories of trans

The evidence provided a psycho-analytic account of Alex's development of GID. For example, Nicholson J quotes from the report of Dr N, with Nicholson J's changes of gender pronoun included:

[Alex]'s cross-gender identification appears to have emerged in the context of an idealised physically close relationship with [his] father, rejection and emotional abandonment by [his] mother, and [his] father's desire for [him] to be a male. This cross-gender formation is stable and there is no evidence that [Alex] has ever developed a psychological identification as female. [His] investment as male simultaneously expresses anger towards [his] mother and maintains closeness with [his] dead father.

[Alex]'s feelings of anger, depression and alienation appear to centre around a need to be validated in [his] gender-identity and to rebuild a sense of emotional connection to others. [He] is preoccupied with feelings of rejection and estrangement from others, which may reflect early emotional abandonment. [Alex] can articulate a desire to be close to others but is wary of rejection:

'My heart is cold, like ice. I love no one, I don't let anyone in. My mother had a key but chose not to use it. I want a new family.'

[Alex] feels "sad most of the time" and describes urges to self-harm. [He] has cut [his] arm with a knife and on one occasion hit [his] head on a wall. [He]

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<sup>869</sup> Ibid 102 [70]

stated that the hope of being able to be a male has prevented [him] from further acting upon these impulses.

In my opinion [Alex] has a clear Gender Identity Disorder and some additional personality vulnerabilities and unresolved attachment trauma. These issues will need ongoing psychotherapeutic support focussing on consolidation of [his] gender identity and strengthening [his] capacity for reciprocal relationships.<sup>870</sup>

This lengthy quote is included to demonstrate the extent to which the Court was interested in exploring a psycho-dynamic approach to gender dysphoria. This approach contextualises Alex's gender identity within the family and social dynamics of his life. It reflects a conception of gender dysphoria as a pathological response to trauma and dysfunctional family dynamics. This construction of trans identity is reflected in other research on gender dysphoria from the late 20<sup>th</sup> century. Steensma et al identify theories which emerged in the 1970s-80s attributing gender dysphoria to factors such as flawed parental conduct:

Certain parental characteristics such as a maternal wish for a daughter, paternal absence, parental reinforcement patterns, or a symbiotic relationship between mother and son have been considered to be the primary or even the single factor for the development of gender dysphoria<sup>871</sup>

These theories gradually gave way to slightly more complex explanations which involved multiple cumulative 'risk factors' such as 'fear of male aggression in mothers, and a feminine/beautiful appearance in boys.'<sup>872</sup>

Atkins has described the approach of Nicholson CJ in *Re Alex* as deploying a theory of identity which is responsive to the discursive nature and social context of identity.<sup>873</sup> Atkins' analysis commends the decision for its refusal to endorse an essentialist biological conception of gender identity or a libertarian concept which sees gender as an individual choice. Both of these alternatives reinforce the mind-body duality and both are limited and destructive in their impact on trans identities.

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<sup>870</sup> Ibid [99].

<sup>871</sup> Steensma et al, (n 242), 291.

<sup>872</sup> Ibid.

<sup>873</sup> Atkins, (n 227).

Atkins explains the narrative view of identity which underpins her analysis. It is a view which is consistent with feminist constructions of gender whereby gender is not a natural, innate or direct expression of biological bodily sex, but rather the effect of sedimented regulatory and disciplinary practices. On this view, identity is performative and self-constituting. Not a choice, but a complex discursive experience of the self. As Atkins explains, ‘the meaning of one’s body and its capacities is not simply given by nature and apprehended intuitively. Rather, it is acquired discursively through a kind of shared embodiment.’<sup>874</sup> Nicholson CJ may have been employing a narrative understanding of gender, although it is not clear that the medical evidence presented to the Court reflected these levels of sophistication. However, the Australian Family Court did not continue to endorse or even entertain a narrative view of identity.

Gender dysphoria is no longer diagnosed or viewed through a psycho-analytic or psychodynamic lens. For example, in a 2015 case called *Re Chloe*, the minor had been subjected to abuse and neglect in infancy.

She was exposed as an infant to neglect and abuse. She was what could only be described as “belted” as a young child. There was often insufficient food, and she was harshly punished. She has suffered from anxiety-induced incontinence for many years.<sup>875</sup>

These experiences are not seen as causing or contributing to her gender dysphoria. They are described in order to provide appropriate background, and are not constructed as explanatory or contributing to Chloe’s experience of gender in any way. Instead, her anxieties are described as being ameliorated since she began living in her true gender.<sup>876</sup> Currently, professionals are urged to undertake an evaluation of psycho-social adjustment which is underpinned by the philosophy that ‘the expression of gender characteristics, including identities, that are not stereotypically associated with one’s assigned sex at birth is a common and culturally-diverse human phenomenon [that] should not be judged as inherently pathological or negative.’<sup>877</sup> The

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<sup>874</sup> Ibid 8.

<sup>875</sup> *Re Chloe* [2015] FamCA 1226 [18].

<sup>876</sup> Ibid.

<sup>877</sup> WPATH Board of Directors, 2010 statement, cited in (WPATH), (n 796), 5.

focus of psychotherapeutic evaluation is on the lived experiences of gender dysphoria rather than cause or etiology.

Early clinical research identified psychological comorbidities as counter-indicators to treatment,<sup>878</sup> probably because 'a suspicion continue[d] to exist that such individuals harbor serious underlying psychopathology.'<sup>879</sup> This perception has yielded to a prevailing approach that psychological conditions such as stress and depression arise from the dysphoria and/or social isolation and discrimination. In other words, the current orthodoxy is that the dysphoria causes or contributes to other mental health problems, and not the other way around.

We can track a trajectory of how gender identity is constructed in the jurisprudence. This jurisprudence provides insight into how law seeks to regulate the sexed subject. 'The discursive creation of new subjects based on their sexualities regulates and disciplines through normalisation and social control.'<sup>880</sup> It begins with a conception of gender as a natural product of sex characteristics, whereby gender diversity is caused by a complex interaction of exogenous and endogenous factors such as psychodynamics of the family, endocrinological pathology, and congenital neurological features. In *Re Alex* the analysis seems to point primarily to the first and last of these factors in accounting for Alex's gender dysphoria. As the jurisprudence evolves over the next 14 years, the etiology of gender dysphoria occupies a much less significant place within the discussions, yet there is increasing reliance on an underpinning and tacit understanding of gender identity as congenital, innate, static, and resilient once it has developed. This leaves the body shaping surgery as the only ethical and respectful form of treatment.

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<sup>878</sup> Yolanda L S Smith et al, 'Sex reassignment: outcomes and predictors of treatment for adolescent and adult transsexuals' (2005) 35(1) *Psychological Medicine* 89.

<sup>879</sup> Collier Cole et al, 'Comorbidity of Gender Dysphoria and Other Major Psychiatric Diagnoses' (1997) 26(1) *The Official Publication of the International Academy of Sex Research* 13, 14.

<sup>880</sup> Iribarne, Macarena, and Seuffert, Nan. "Imagined Legal Subjects and the Regulation of Female Genital Surgery." (2018) 44(2) *The Australian Feminist Law Journal* 175, 179.

### 6.2.2 Treatment – therapeutic or non-therapeutic?

The medical evidence uniformly diagnosed gender identity disorder and proposed that hormone treatment, starting with stage 1, should be commenced as soon as possible. While the application sought authority for stage 1 treatment only, the explicit expectation was that if Alex's gender identity disorder should persist he would move on to stage 2 treatment. The Court was urged to consider both stages as making up a single course of treatment.

In deciding *Re Alex*, Nicholson J was faced with several legal issues, two of which are key to this discussion. The first of these issues was Alex's capacity to consent to treatment. If Alex was Gillick competent, then the Court would have no role to play in the decision. However, Nicholson J circumvented this issue by dismissing competence assessment as an 'academic question'<sup>881</sup> because he intended to approve the application in any case. On this reasoning, as the outcome would be the same, it was unnecessary to consider whether Alex was competent or who should make that determination. As we shall see, this became a key issue in *Re Jamie*.<sup>882</sup>

The next legal issue to be determined was whether or not the proposed treatment should be categorised as a special medical treatment for which court authorisation was required. The issue was uncontested at the hearing, as none of the parties or intervenors argued that the treatment was within the scope of parental consent. In applying the indicia from Marion's Case, a preliminary issue was whether the treatment should be characterised as therapeutic or non-therapeutic. As discussed in chapter 6, the majority in Marion's Case had established this as a threshold issue, suggesting that only non-therapeutic treatment fell into the category of special medical procedures.<sup>883</sup>

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<sup>881</sup> *Re Alex* (2004) 180 FLR 89, 119.

<sup>882</sup> *Re Jamie* (2013) 278 FLR 155.

<sup>883</sup> *Marion's Case* (n 659) 250.

In deciding whether treatment was therapeutic, Nicholson J began by considering whether bioscience had identified a cause and etiology for gender dysphoria. Focusing on the words in the majority reasoning in *Marion's Case* that therapeutic procedures were 'appropriately carried out to treat some malfunction or disease',<sup>884</sup> Nicholson J felt constrained to decide whether there was evidence that transsexuality can be considered to have a physiological cause, thus falling within the category of treatment to cure a disease or correct a malfunction. His conclusion that '[t]he etiology of a compelling desire to make the transition to become the opposite sex has not been definitively established' cites the Full Court appeal decision in *Attorney-General (Cth) v Kevin*.<sup>885</sup> Both the trial judge in *Kevin v Attorney-General (Cth)* and the Full Court on appeal discuss the concept of brain sex which posits a neurobiological origin for transsexuality, with the Full Court asserting that

... the weight of medical opinion generally agrees that in the instance of a transsexual person, that individual is born with a brain that recognises him or herself as a member of the sex opposite to that whose physiological indicia he or she bears. The expert evidence before his Honour, which he accepted, was that this was probably of biological origin within the brain.<sup>886</sup>

Chief Justice Nicholson was clearly hoping to find support for this thesis, but the experts in *Re Alex* did not endorse that as an established theory.<sup>887</sup> In the absence of a clear and established physiological origin, Nicholson CJ concludes that;

The current state of knowledge would not, in my view, enable a finding that the treatment would clearly be for a "malfunction" or "disease." ... To my mind, their Honours were seeking in [*Marion's Case*] to distinguish medical treatment which seeks to address disease in or malfunctioning of organs.<sup>888</sup>

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<sup>884</sup> Ibid.

<sup>885</sup> *Attorney-General (Cth) v Kevin* (2003) 172 FLR 300.

<sup>886</sup> Ibid [56] cited in *Re Alex* (2004) 180 FLR 89, 123

<sup>887</sup> *Re Alex* (2004) 180 FLR 89.123-124.

<sup>888</sup> Ibid.

It has been persuasively argued that Nicholson CJ's interpretation of the majority judgment's definition of therapeutic treatment was too narrow, excluding non-physiological disorders.<sup>889</sup> In other words, Nicholson CJ was too preoccupied with the majority's description of therapeutic procedures aimed at curing a bodily malfunction or disease suggesting a physiological ailment. This is particularly persuasive given that Brennan J in *Marion's Case* explicitly included treatment for mental disorders in his description of therapeutic procedures.<sup>890</sup> At the time of *Re Alex*, gender identity disorder was included in the Diagnostic and Statistics Manual of Mental Disorders (DSM-IV).<sup>891</sup> The vast majority of medical literature and clinical practice relating to gender identity disorder identified it as a medical condition in need of therapeutic medical treatment, and was unconcerned with establishing etiology.

Chief Justice Nicholson further argued that it would be pathologising to characterise gender identity disorder (as it was then termed) as a disease or malfunction.<sup>892</sup>

... I would add that I can imagine that Alex and other people who have longed for transition to the opposite sex may find it offensive to find the incompatibility between their sense of self and the sex of their body being categorised as a "disease" or a "malfunction."<sup>893</sup>

He concluded that the procedure is non-therapeutic. This conclusion has been the subject of controversy and critique. For example, Bell argues

Nicholson CJ seemed caught by the 'therapeutic/nontherapeutic' distinction.... His Honour considered that to label the condition as [a disease] would likely be offensive to gender diverse persons such as Alex, thus resisting the medical discourse or rationalisation described by Bogdanoski. Yet, by refusing to accede to the medicalisation or pathologising of Alex's

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<sup>889</sup> *Re Jamie* (2013) 278 FLR 155; Felicity Bell, 'Children with Gender Dysphoria and the Jurisdiction of the Family Court.' (2015) 38(2) *University of New South Wales Law Journal* 426; Ian Kerridge, Michael Lowe and Cameron Stewart, *Ethics and Law for the Health Professions* (Federation Press, 3 ed, 2009).

<sup>890</sup> *Marion's Case* (n 659) 269

<sup>891</sup> American Psychiatric Association, *DSM-IV*, (n 830).

<sup>892</sup> *Re Alex* (2004) 180 FLR 89 [195].

<sup>893</sup> *Ibid.*



beliefs about his identity, Nicholson CJ was also cementing the view of hormone therapy for gender dysphoria as non-therapeutic, with unfortunate practical consequences.<sup>894</sup>

These practical consequences emerged most urgently in *Re Jamie*,<sup>895</sup> discussed in section 6.3 below.

In *Re Alex*, two competing theories of gender dysphoria are explored. One is the understanding of gender dysphoria as a pathological response to childhood trauma, as identified above. The other is that gender identity is determined by brain differences that develop in utero. Male and female brains have a different morphology and this morphology determines, among other things, gender identity – an explanation which is grounded in brain-sex binary theories.

Subsequent cases sought to challenge the jurisdiction of the Court, particularly in respect to stage 1 treatment. The first such challenge was *Re Bernadette*<sup>896</sup> in 2011. The trial judge made orders authorising treatment in 2010. The applicants appealed on the basis that the Court lacked jurisdiction and a further ground of appeal was that stage one treatment was reversible and therefore, even if characterised as non-therapeutic, should not be construed as special medical treatment. The Court of Appeal rejected the application on the basis that, as the child turned 18 before the application was filed, it lacked jurisdiction to hear and determine the appeal. The Court did not consider the substantive issues raised by the appeal.

### **6.3 *Re Jamie***

The next significant challenge to the jurisdiction of the Court came in 2013 in *Re Jamie*.<sup>897</sup> Jamie identified as female and had been diagnosed as having childhood gender identity disorder. In

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<sup>894</sup> Bell, (n 889) 437-438.

<sup>895</sup> *Re Jamie* (2013) 278 FLR 155 [197].

<sup>896</sup> *Re Bernadette* (2011) 249 FLR 294.

<sup>897</sup> *Re Jamie* (2013) 278 FLR 155.

2011, when Jamie was ten years old, he began to experience precocious puberty, and this prompted an urgent application wherein Dessau J made orders approving stage one treatment, ie administration of puberty suppressant hormones.<sup>898</sup> Although the applicants had sought approval for stage 2 treatment, Dessau confined her orders to stage one, on the basis that she could not assess the best interests of the minor in 5 or 6 years' time. Jamie was then the youngest person for whom authorisation for gender affirming hormone therapy had been sought.

Although the jurisdiction of the Court was not challenged in the original hearing, the parents appealed the orders on the grounds that the Australian Family Court lacked jurisdiction, as both stages of treatment fell within the scope of parental authority. The arguments were similar to those raised in *Re Bernadette*. In particular it was argued that both stages are treatment in response to a recognised mental disorder. The Full Court ultimately agreed with this characterisation but the appeal was only partly successful.

By the time the appeal was heard, stage one treatment had been underway for two years. Three parties in addition to the parents were involved in the appeal. The independent Children's Lawyer (ICL) had been appointed at trial by Dessau J. The Australian Human Rights Commission (AHRC) and the Office of The Public Advocate (OPA) were granted leave to intervene.

### 6.3.1 Treatment - therapeutic or non-therapeutic?

The primary grounds of Appeal cited by the applicants were, first, that both stages were reversible and second that the proposed treatment is a well-recognised means to treat a diagnosed psychiatric condition. This required an argument that *Re Alex* was wrongly decided, at least as to Nicholson CJ's conclusion that the treatment is not therapeutic. Both the Independent Children's Lawyer (ICL) and the Office of the Public Advocate opposed the appeal. The ICL submitted that

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<sup>898</sup> *Re Jamie* [2011] FamCA 248.

[t]reatment of [gender identity disorder] is not a medical procedure for treating “a bodily malfunction or disease” as it is treatment for a psychological condition with an unknown etiology. The treatment is one where an otherwise healthy body’s functioning is altered to address a dissonance between a belief as to gender and the actual gender of the person.<sup>899</sup>

Thus the ICL picked up on Nicholson CJ’s concern that the etiology or origins and causes of transsexualism are unknown to biomedicine.

The Office of the Public Advocate argued that stage one fell outside parental authority because it presented a significant risk of making the wrong decision. In support of that argument the Office of the Public Advocate submitted that the factors contributing to the risk are:

- a. the aetiology of the disorder is not understood;
- b. the procedures to treat it/respond to it are experimental;
- c. the procedures are ethically complex and contentious;
- d. the procedures will commence or continue a gender change process, a major life-altering decision; and
- e. there are differing professional opinions as to how a child or adolescent should be treated for gender identity disorder.<sup>900</sup>

Chief Justice Bryant responded to these arguments by noting that the treatment proposed was common rather than experimental.<sup>901</sup> Furthermore, ‘many conditions result in different views about what treatment should be given’ and this fact alone does not make them special.

In relation to the concerns about lack of consensus about treatment, the Australian Human Rights Commission (AHRC) in its submission noted that, at the time *Re Bernadette* was before

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<sup>899</sup> *Re Jamie* (2013) 278 FLR 155 [36].

<sup>900</sup> *Ibid* [101].

<sup>901</sup> *Ibid* [102].

the Court in 2007, there was disagreement among experts on matters such as the appropriate timing for commencement of stage 2 treatment.<sup>902</sup>

Chief Justice Bryant noted that between 2007 and the appeal in *Re Jamie*, 'the US Guidelines have been published, which has engendered a stronger consensus on treatment modalities for adolescent transsexualism.'<sup>903</sup> Accordingly Bryant CJ rejected the submissions of the Office of the Public Advocate that the treatment was experimental and lacked broad consensus within the expert medical community.

The narrative of an emerging and strengthening consensus in the medical community about treatment of childhood gender dysphoria obscures significant disagreement and dissent among medical experts, which is evident in the controversy surrounding the clinical practices of Dr Kenneth Zucker.<sup>904</sup> This incident suggests there was at that time significant disagreement within the medical profession about appropriate treatment for trans children, although it also indicates that a particularly orthodoxy of treatment is becoming unassailable. It is not clear, however, that the status of this particular orthodoxy is due to its scientific merit. While there is substantial evidence that the gender affirmation treatment is effective in helping trans minors to be happier and more at comfortable with their bodies, the consensus that is being established is arguably more attributable to ideology than bio-scientific discovery of causes. Basing the treatment protocol on policy and evidence-based practice may well be entirely appropriate. However, it is inaccurate to suggest that the consensus has emerged out of a greater scientific understanding of how gender identity develops.

The Office of the Public Advocate raised concerns about the lack of evidence as to long term outcomes, noting that there are few longitudinal studies about the rate of desistance. This is a

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<sup>902</sup> *Re Bernadette* (2011) 249 FLR 294.

<sup>903</sup> *Re Jamie* (2013) 278 FLR 155, 168-169.

<sup>904</sup> See n 798 for further discussion.

<sup>904</sup> Wylie C Hembree et al, 'endocrine Treatment of Gender-Dysphoric/ Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline' (2017) 23(12) *Endocrine Practice* 1437.

highly contentious issue in the treatment of children with gender dysphoria. This issue is discussed in the analysis of *Re Kelvin* at 6.4.1 below.

Another objection raised in the submissions of the Office of the Public Advocate is summarised by Bryant CJ:

There is a rational basis for distinguishing the treatment of [childhood gender identity disorder] (a mental disorder within the terms of DSM-IV) from the treatment of other psychiatric disorders. The pharmaco-therapeutic treatment sought for [childhood gender identity disorder] “does not treat the psychological imperative at the heart of the condition, but alters an otherwise healthy body to accommodate to the psychological imperative”. Rather than address a bodily malfunction or disease, the treatment is “inextricably associated with the patient’s self-identity” in a developmental stage when this is still forming.<sup>905</sup>

In response, Bryant, CJ stated

In my view, it is not, as the submissions of the public authority propose, the alteration of an otherwise healthy body to accommodate a psychological imperative, but rather it is the alignment of the body with the person’s self-identity<sup>906</sup>

This argument suggests that in gender dysphoria, the body is somehow pathological in that it fails to align with self-identity. The identity or misalignment is not pathological, but the body has failed the mind by expressing the wrong sex. Although this is unstated, the inexorable conclusion from this argument is that the body itself has failed. Bryant CJ suggests that the submission of the Office of the Public Advocate is irrational because it assumes that a lack of dissonance between the sex of the body and a person’s gender identity is the normative state:

Underlying the submission is a suggestion that to have a self-identity which departs from the normative (that is the expected physical characteristics of a particular sex) is abnormal and to treat it is a mere accommodation and not therapeutic. Once it is accepted that there is no normative state, at least not in every person, then the absolute necessity of aligning the self-identity and the physical characteristics becomes apparent.<sup>907</sup>

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<sup>905</sup> *Re Jamie* (2013) 278 FLR 155 [44].

<sup>906</sup> *Ibid* [67].

<sup>907</sup> *Ibid* [68].

This is a strange argument, seemingly using the terms ‘normative’ and ‘abnormal’ as a way to invest the argument with moral overtones. It deliberately skirts the central idea of therapeutic treatment as a way to deal with illness, pathology, disfigurement or dysfunction. It also misrepresents the argument being posed by the Office of the Public Advocate. The proposed treatment configures the body as deficient or ‘wrong’ and in need of medical intervention because it fails to express the self-identity. Re-wording this as ‘alignment’ cannot successfully avoid this point.

The issue raised by Nicholson CJ that adopting a pathologising concept of gender dysphoria is disrespectful and wrong is taken up by Bryant CJ in *Re Jamie*<sup>908</sup>

it is readily understandable why people with transsexualism are concerned about the psychiatric diagnoses of gender dysphoria or gender identity disorder, as they see themselves as merely an example of the diversity in human sexual formation, rather than as an aberration in or departure from the norm.<sup>909</sup>

In the next sentence, however, Bryant J dismisses this point as immaterial to the legal issues:

However whilst understanding this discomfort, I do not need to determine whether that characterisation is correct or not for the purpose of these proceedings. Gender identity disorder is a psychological condition identified in DSM-IV (and the new DSM-5, published May 2014).<sup>910</sup>

This distinction is pragmatic but logically inconsistent. For instrumental purposes, gender dysphoria is accepted as a pathology, even though this is contrary to a sense of what is accurate and legitimate. This seemingly contradictory approach is demanded by the decision that the therapeutic status of a procedure is the preliminary test of whether it falls within the scope of parental authority. An alternative framing of gender dysphoria, and one that seems to demand less tortured logic, is that the dissonance between body and gender identity is not pathological,

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<sup>908</sup> Ibid.

<sup>909</sup> Ibid [68].

<sup>910</sup> Ibid [170].

but the distress that this can cause is the ‘disorder’ in need of treatment. This is, of course, the current approach taken by WPATH in its Standards of Care and by the American Psychiatric Association in the latest edition of the DSM.<sup>911</sup> At the time of *Re Jamie*, however, the inclusion of gender dysphoria as a disorder in the DSM still relied on conceptualising gender dysphoria as pathological.

### 6.3.2 Gender dysphoria and neurology

Chief Justice Bryant discusses the perspective that transsexualism should be viewed as an example of diversity in human gender development, echoing the arguments that Nicholson CJ raised in *Re Alex*.<sup>912</sup> Bryant CJ cites the discussion in *Attorney-General v Kevin*<sup>913</sup> and uses the term ‘intersexual phenomenon’ to suggest that transsexualism is neurobiological in origin.<sup>914</sup> The use of the word ‘intersexual’ by Bryant CJ indicates that she is viewing gender as a biological artefact. As noted in chapter 3, if we take a neurobiological view of gender identity, then it is a part of the brain which is sexually dimorphic. According to brain organisation theory the brain, like gonads, genitals and chromosomes, is either male or female. This means that if there is dissonance between gender identity and other sexed body parts, then that is a form of intersex, in much the same way that a dissonance between chromosomes and genitals is an intersex variation. Although this is not discussed in her judgment, it is implicit in her choice of words. Describing trans as a form of intersex is not uncommon in the activist discourse. It is sometimes done strategically to position gender identity as a biological artefact, which bolsters arguments that it is inexorable and unchanging. This positioning clearly aligns with the ‘born this way’ trope and with a commitment to a brain-sex binary.

Chief Justice Bryant’s judgment includes two competing concepts of gender dysphoria – one pathologising and the other adopting a neurobiological account of gender identity

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<sup>911</sup> (WPATH), (n 796); American Psychiatric Association, *DSM-V* (n 33).

<sup>912</sup> *Re Alex* (2004) 180 FLR 89.

<sup>913</sup> *Attorney-General (Cth) v Kevin* (2003) 172 FLR 300.

<sup>914</sup> *Re Jamie* (2013) 278 FLR 155. Unfortunately, Bryant CJ does not address the issues facing intersex people at any other point in this or any other case.

development. Chief Justice Bryant clearly favours the neurobiological account, but endorses the pathological approach for pragmatic reasons.

### 6.3.3 Hormones, risk and reversibility

Chief Justice Bryant concludes that stage one treatment is both therapeutic and fully reversible and therefore within the scope of parental authority. Her analysis aligns with the discussion across many of the cases regarding analysis of stage one as fully reversible and benign. It is, however, very different to the approach of Forrest J in *Re Carla*, where puberty blocking hormones are constructed as risky and problematic:

Dr C does report that “in theory” male puberty could be suppressed hormonally in Carla to prevent any virilisation until Carla was older and could give informed consent to treatment. However, this would require at least three monthly injections of Depot Lucrin intramuscularly, three monthly medical reviews and any female pubertal development would thereby be necessarily delayed until her testes were removed and pubertal suppression could be ceased. This would mean that Carla’s pubertal development would be significantly delayed compared to her peers with likely detrimental social and psychological effects on her in addition to detrimental physical effects including in respect of her bone health.<sup>915</sup>

The risks outlined in *Re Carla* are in marked contrast to the construction of stage one puberty blockers in the gender dysphoria cases. For example, in *Re Lucy*, Murphy J relies on the expert report of Dr C, paediatric endocrinologist, in describing the effect of stage 1 puberty blockers as reversible and without significant side effects:

The treatment is effective whilst administered and when stopped pituitary [gland] function returns to normal and will effectively be reversible unless other definitive therapies are performed at a later date (after the age of 18 years). In terms of the effect physically on the child, the intra-muscular injections are described as “painful”. As to its side effects, there is the potential for the child to be slightly shorter as an adult than he otherwise might be, but it appears that this side effect is by no means certain. There are, according to Dr C, no other adverse effects, or side effects, of the proposed treatment.<sup>916</sup>

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<sup>915</sup> *Re Carla* (n 493), [25].

<sup>916</sup> *Re Lucy* [2013] FamCA 518, [13]-[14].



In *Re Sam and Terry*, the same treatment regime is described in similarly neutral terms:

In terms of the first stage, which involves pubertal suppression, Terry will be administered Depot Lucrin in a dose of 22.5mg every three months via injection, with such dose and frequency to be potentially revised to achieve complete pubertal suppression.... Taking the Stage 1 hormones will achieve pubertal suppression, however, as Professor H notes, this treatment is completely reversible and “has no long-term negative impact on fertility or reproductive health”.<sup>917</sup>

The impact is said to be completely reversible and hence the risk and consequence of a wrong decision are not ‘serious’:

The proposed Stage 1 treatment is completely “reversible”, the only adverse physiological side effect is the potential for the children to not reach their projected height, but bone density testing conducted by Professor H indicates that both children have reached, or are very close to reaching, their adult height. The treatment acts to suppress further pubertal development, but that development can recommence if treatment ceases. In that sense, noting the “reversibility” of the treatment, the risks associated with error of diagnosis are low and the consequences of treatment cannot otherwise be described as “grave”.<sup>918</sup>

Similarly, in *Re Shane*, evidence was given that Stage 1 treatment is “...completely reversible and has no long-term negative impact on fertility or reproductive health.”<sup>919</sup>

The way in which the treatment is characterised is largely determined by the extent to which the medical and legal experts seek to endorse and authorise it. In *Re Carla*<sup>920</sup> stage 1 puberty blocking hormone treatment is constructed as risky and potentially damaging, both psychologically and physically in order to justify approving a much more serious, invasive,

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<sup>917</sup> *Re Sam and Terry (Gender Dysphoria)* [2013] FamCA 563, [25]-[26].

<sup>918</sup> *Ibid* [90].

<sup>919</sup> *Re Shane (Gender Dysphoria)* [2013] FamCA 864.

<sup>920</sup> *Re Carla* (n 493). See discussion at 7.4.5.

irreversible and contentious treatment regime.<sup>921</sup> By contrast it is described as reversible and having insignificant physiological impact in cases concerning children with gender dysphoria.

The evidence presented in *Re Jamie* is that stage one is ‘fully reversible’ and therapeutic and Bryant CJ concludes that it falls within the scope of parental authority.<sup>922</sup> Stage two, on the other hand, is found not to be within the scope of parental authority, because of its irreversible impact. Justice Finn cites the passage from *Marion’s Case* where the majority explain why Court authorisation is required for non-therapeutic sterilisation but not for procedures such as appendectomy or cosmetic surgery:

Court authorization is required, first, because of the significant risk of making the wrong decision, either as to a child’s present or future capacity to consent or about what are the best interests of a child who cannot consent, and secondly, because the consequences of a wrong decision are particularly grave.<sup>923</sup>

Having determined that irreversibility was a factor to be balanced against the therapeutic nature of stage 2 treatment, the decision in *Re Jamie* was that stage 2 treatment fell outside the scope of parental authority, and required court authorisation. Furthermore, even if the minor has been assessed by the medical team as having Gillick competence to consent, the Court was required to make a final assessment and determination of capacity. The consequence of *Re Jamie* was to take stage one treatment out of the jurisdiction of the Court, but to retain jurisdiction for stage 2 and to further require the Court to assess Gillick-competence. This regime continued until 2017, when the appeal in *Re Kelvin*<sup>924</sup> was resolved.

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<sup>921</sup> See discussion of *Re Carla* (n 493) in Chapter 7.

<sup>922</sup> *Re Jamie* (2013) 278 FLR 155.

<sup>923</sup> *Marion’s Case* (n 659) 250.

<sup>924</sup> *Re Kelvin* (n 14).

## 6.4 Re Kelvin

*Re Kelvin* was an appeal by way of a case stated<sup>925</sup> by Watts J. Kelvin had been diagnosed with gender dysphoria and his father had applied to the Australian Family Court for a declaration of Gillick competence or in the alternative orders authorising stage 2 treatment. In February 2017 Watts J found that Kelvin was competent to consent to treatment, but no declaration or orders were made, presumably to avoid disposing of the matter in order to permit the filing of the stated case. The Appeal Court was asked to determine whether, in the context of minors with gender dysphoria, Gillick competence or, if the minor was found to lack capacity, commencement of stage 2 treatment, were required to be determined by a Court.

Both the majority and minority agreed that the Court has no role to play in determining Gillick competence or in authorising stage 2 medical treatment. The difference between the majority and minority was in whether *Re Jamie* was wrongly decided or simply superseded by medical developments in the field of treatment of gender dysphoria. The majority declined to find that *Re Jamie* was wrongly decided.

Aside from the applicant, five intervenors were party to the proceedings. The intervenors were A Gender Agenda, an LGBTI advocacy group; the Australian Human Right Commission (AHRC); the Department of Family and Community Services (DOFCS); the federal Attorney-General; and the Royal Children's Hospital in Melbourne (RCH). An Independent Children's Lawyer (ICL) had also been appointed. Despite the involvement of seven parties in the proceedings, the only

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<sup>925</sup> The Court procedures are somewhat confusing in *Re Kelvin*. A stated case is generally an interlocutory procedure, whereby a trial judge can state a case for consideration of an appeal court in order to resolve specific legal issues that will impact on the outcome of the trial. This is the position under *Family Law Act 1975* (Cth) s94A. In *Re Kelvin* the jurisdiction of the lower Court appears to have been exhausted as Watt J had already made a finding of Gillick competence, allowing Kelvin to consent to stage 2 treatment. However, the Full Court decided to answer the questions in the case stated, despite shortcomings in the procedure (19). These technical legal issues are not relevant to this analysis, though they complicate the discussion.

dissenting voice or perspective offered in terms of the substantive issues was the DOFCS, who opposed the appeal. As noted by the majority, since *Re Alex*, ‘in no case has contradictory evidence been forthcoming, including from the Independent Children’s Lawyers, to challenge the desirability of the relevant treatment.’<sup>926</sup>

In dealing with the question of whether the therapeutic status of a medical procedure is a preliminary question following the dicta in *Marion’s Case*, the majority in *Re Kelvin* cite Brennan J’s explanation in *Marion’s Case* of how therapeutic medical treatment is defined:

Proportionality and purpose are the legal factors which determine the therapeutic nature of medical treatment. Proportionality is determined as a question of medical fact. Purpose is ascertained by reference to all the circumstances but especially to the physical or mental condition which the treatment is appropriate to affect.<sup>927</sup>

In determining whether a particular treatment is therapeutic or not, Courts ‘must depend upon, among other things, evolving medical science which, notoriously, occurs at a very rapid pace.’<sup>928</sup> The majority then embark upon a detailed narrative tracing how Court applications concerning treatment for gender dysphoria, described by Nicholson J in *Re Alex* as ‘novel’, have become increasingly familiar as medical science has evolved effective, reliable and medically uncontroversial diagnostic and treatment protocols. The majority state that ‘It is readily apparent that the judicial understanding of Gender Dysphoria and its treatment have fallen behind the advances in medical science.’<sup>929</sup> The majority point to the updated edition of the DSM since *Re Jamie* to exemplify the rapid developments in medical understanding of gender dysphoria. They conclude that

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<sup>926</sup> *Re Kelvin* (n 14), [119].

<sup>927</sup> *Marion’s Case* (n 659) 274, cited in *Re Kelvin* (n 14), [136].

<sup>928</sup> *Re Kelvin* (n 14).

<sup>929</sup> *Ibid* [152].

There is no question that the state of medical knowledge has evolved since the decision in *Re Jamie*. Apart from the change from DSM-IV to DSM-V, importantly, there is the development of standards of care for the treatment of Gender Dysphoria in young people.<sup>930</sup>

### 6.4.1 New medical evidence or ideological shifts?

A specific instance demonstrating new medical knowledge identified by A Gender Agenda was evidence given by a medical expert employed at RCH gender clinic and included in the stated case which ‘records as a fact that 96 per cent of patients treated for gender dysphoria at the Royal Children’s Hospital continue to identify as transgender into late adolescence and so one sees some evidence there about persistence of gender dysphoria.’<sup>931</sup> A further example of the development of medical knowledge concerning gender dysphoria identified by the majority ‘is increased knowledge of the risks associated with not treating a young person who has Gender Dysphoria’<sup>932</sup>

From this position of continuous evolution of biomedical understanding of gender dysphoria, the majority concludes that ‘a Court can depart from an earlier decision without needing to find that that decision was “plainly wrong”.’<sup>933</sup> Having made that determination, the majority further conclude that there is no longer any basis to insist that the Court determine Gillick competence.<sup>934</sup>

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<sup>930</sup> Ibid [159].

<sup>931</sup> Ibid [160] I have been unable to find a published peer-reviewed account of this research and these findings, although the gender clinic team from RCH Melbourne have since published an account of the medico-legal changes from *Re Alex* to *Re Kelvin* - Michelle Telfer et al, 'Transgender adolescents and legal reform: How improved access to healthcare was achieved through medical, legal and community collaboration' (2018) 54(10) *Journal of Paediatrics and Child Health* 1096.

<sup>932</sup> *Re Kelvin* (n 14), [161]

<sup>933</sup> Ibid [174]

<sup>934</sup> Ibid [182]

The minority adopted similar reasoning regarding advancing medical knowledge about gender dysphoria:

... over time the expert evidence adduced in the cases reflected advances in medicine and by 2013 at least one judge was satisfied that stage 1 treatment was therapeutic and that for a child who could not validly consent, approval for treatment was within the scope of parental responsibility (*Re Lucy (Gender Dysphoria)* (2013) 49 Fam LR per Murphy J).<sup>935</sup>

While all the developments pointed to in both the majority and minority reasoning evidence a rapidly shifting medical and psychiatric response to gender dysphoria, it is inaccurate to characterise these changes as being driven primarily by developments in scientific understanding of the development of gender identity. To a large extent the changes in treatment protocols are driven by political, social and cultural factors. The medical literature and discourses reflect significant ideological shifts rather than new evidence.

This does not make the changing attitudes less legitimate or appropriate. Medical responses to trans have substantially improved the lived experiences of children who suffer gender dysphoria. There has been significant medical research on gender identity development and on clinical practices. But the research on the former has not played an extensive role in the changes to clinical practice and legal understanding. Those changes have been borne largely out of evidence-based medicine and have been driven by a closer and closer adherence to the brain-sex binary narrative of gender identity development, even though that narrative is not explicit in the medical evidence or the legal cases. After *Re Jamie*, the causes of gender dysphoria are not referred to in the cases. Instead, the reasons for decision simply endorse the medical approach that as long as a patient meets the diagnostic criteria for gender dysphoria, and there is consensus about what treatment is appropriate, then the Court need not be concerned with causes and etiology. This is entirely consistent with the pragmatic approach adopted by Bryant CJ in *Re Jamie*. This approach appears neutral as to causes, but indirectly

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<sup>935</sup> Ibid [205]

endorses the brain-sex binary because of the emphasis on the Dutch model of treatment as the only valid and effective model.

As noted above, objections to changing a person's gender identity may arise from concerns about altering a key facet of identity, aside from issues of cause and origin. However, the perception that the Dutch model, directed at changing the body to align with the gender identity, is effective and ethical whereas alternative treatments directed at changing the gender identity to align with the body are ineffective is at least partly premised on an innate and fixed gender identity which is resilient to change, even if that is not made explicit. The language in which these cases are couched provides further indications that the neurobiological account of gender identity formation underpins both legal and medical understanding. Language such as 'assigned male at birth' when referring to minors who are not intersex endorses a view that gender develops before birth.

The changing jurisprudence culminating in *Re Kelvin* is not driven by biomedical research, but by narrative shifts in the broad cultural understanding of gender identity and gender diversity. As an example, the majority in *Re Kelvin* point to the release of international treatment standards to demonstrate a developed consensus around treatment since the time *Re Jamie* was decided.<sup>936</sup> The majority quote from the submission by A Gender Agenda that 'those standards are being developed and, plainly enough, the Australian Standards were not in place at the time that *Re Jamie* was decided.'<sup>937</sup>

The Endocrine Society Treatment Guidelines, though not Australian, were first published in 2009<sup>938</sup> and were clearly available when *Re Jamie* was decided in 2013. An updated version of

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<sup>936</sup> Ibid [159].

<sup>937</sup> Ibid.

<sup>938</sup> Wylie C Hembree et al, 'Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline' (2009) 94(9) *The Journal of Clinical Endocrinology & Metabolism* 3132.

the Treatment Guidelines was published in 2017.<sup>939</sup> A close examination of both versions of the Guidelines shows very little difference between them. While there have been some minor amendments about timing of commencement of treatment – for example, Recommendation 2.5 of the 2017 guidelines identifies that there may be compelling reasons to commence sex hormone treatment prior to the age of 16, whereas the 2009 Guidelines did not explicitly identify that possibility – the actual treatment recommendations are almost uniformly unchanged. The Australian Standards referred to in *Re Kelvin* have now been published.<sup>940</sup> There are no significant differences between the Australian Standards and the international standards. Thus the claim that '[t]here is no question that the state of medical knowledge has evolved since the decision in *Re Jamie*'<sup>941</sup> is, with this example at least, more rhetorical than real.

One significant development in the medical and clinical research on treatment of transgender minors is identified by the majority:

we have evidence from Dr Telfer which has made its way into the case stated at paragraph [55] about the experience of the gender service of the Royal Children's Hospital over a period from 2003 to 2017, which also encompasses, therefore, new medical knowledge and, in particular, at paragraph [56] ... the case stated, picking up from Dr Telfer's affidavit, the case stated records as a fact that 96 per cent of patients treated for gender dysphoria at the Royal Children's Hospital continue to identify as transgender into late adolescence and so one sees some evidence there about persistence of gender dysphoria.

This is a substantial development within the medical research, as rates of desistance of trans children has been a highly contentious and controversial issue for several decades.<sup>942</sup>

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<sup>939</sup> Hembree et al, (n 799).

<sup>940</sup> M M Telfer et al, *Australian Standards of Care and Treatment Guidelines for Trans and Gender Diverse Children and Adolescents* (Version 1.3, 2020) the Australian Children's Hospital, Melbourne.

<sup>941</sup> *Re Kelvin* (n 14), [159].

<sup>942</sup> See discussion in section 6.3.1.



However, this research was not published at the time of the hearing in *Re Kelvin*, and does not appear to have been published to date, though Tollit et al from RCH Melbourne have reported an ongoing research project looking at presentation and outcome for minors with gender dysphoria.<sup>943</sup> The RCH research will be a prospective study of around 600 minors who have attended the gender clinic at RCH between 2017 and 2020. Hopefully this research, when published, will put to rest some of the debate around desistance rates. The heated debate around rates of persistence and desistance of gender dysphoria in children is significantly complicated by the paucity of research in this area. Most of the debate centres on the methodological legitimacy of three studies, all published before 2013, which indicate high desistance levels (the figure of 80% is often cited) among pre-pubescent children who are gender dysphoric.<sup>944</sup> Currently, there seem to be no longitudinal studies which show different rates, which makes the Royal Children's Hospital experiences highly relevant and valuable.

Rates of desistance are relevant because they raise questions about the current treatment protocols and may suggest a 'wait and see' approach. They have potential to disrupt the 'born this way' narrative by suggesting that gender identity may be more labile and amenable to change than the narrative suggests. The published research cited above indicates that most children who are gender dysphoric are no longer dysphoric by the time they are adolescents. In those cases, the argument goes, providing treatment by way of puberty blockers or cross sex hormone treatment is at best unnecessary and at worst pushing non dysphoric children towards dysphoria and/or gender confusion. Since the research indicates that it is not possible

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<sup>943</sup> Michelle Anne Tollit et al, 'What are the health outcomes of trans and gender diverse young people in Australia? Study protocol for the Trans20 longitudinal cohort study' (2019) 9(11) *BMJ Open* e032151.

<sup>944</sup> Thomas D Steensma et al, 'Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study' (2011) 16(4) *Clinical Child Psychology and Psychiatry* 499; Thomas D Steensma et al, 'Factors associated with desistance and persistence of childhood gender dysphoria: a quantitative follow-up study.' (2013) 52(6) *Journal of the American Academy of Child and Adolescent Psychiatry* 582; Madeleine S Wallien and Peggy T Cohen-Kettenis, 'Psychosexual outcome of gender-dysphoric children' (2008) 47(12) *Journal of the American Academy of Child and Adolescent Psychiatry* 1413.

to predict which children are likely to desist and which are likely to persist, providing treatment to any children presents these risks. Desistance rates are often used strategically by right-wing commentators to debunk childhood gender dysphoria as an irresponsible ideological experiment.<sup>945</sup> Using research for blatantly ideological purposes is illegitimate and merely serves to entrench transphobia by inflaming the so-called 'culture wars.' This is in no-one's interests, whatever the evidence on desistance rates may show. Even if high desistance rates prove to be typical, that is not necessarily evidence that the current protocols should be abandoned or altered. The current protocols are cautious, particularly regarding treatment before the start of puberty. The recommendations of WPATH,<sup>946</sup> the American Endocrine Society<sup>947</sup> and the Australian Standards<sup>948</sup> all support the Dutch model of treatment.

Unfortunately, the issue has become a political grenade which contributes to a hardening of polemic positions, to the extent that any questioning the current gender affirming hormone treatment by reference to desistance rates leads to commentators being accused of transphobia.<sup>949</sup> For these reasons, the publication of further evidence on desistance will be welcomed by researchers looking at childhood gender dysphoria.

It is likely that the evidence presented by Dr Telfer was persuasive to the majority in *Re Kelvin*. However, there is nothing in the judgment to suggest that the majority were even aware of the controversy around desistance rates, such that Dr Telfer's evidence provided evidence to address concerns. I would argue that this evidence was simply another assurance that the established medical protocols are working well and are effective at alleviating dysphoria. While

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<sup>945</sup> See, for example, John Whitehall, 'Gender Dysphoria and the Fashion in Child Surgical Abuse' (2016) 60(12) *Quadrant* 23.

<sup>946</sup> (WPATH), (n 796).

<sup>947</sup> Wylie C Hembree (Chair), Peggy T Cohen-Kettenis, Louis Gooren, Sabine E Hannema, Walter J Meyer, M Hassan Murad, Stephen M Rosenthal, Joshua D Safer, Vin Tangpricha, Guy G T'Sjoen. 'Full Guideline: Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline' (2017) 102(11) *The Journal of Clinical Endocrinology & Metabolism* 3869.

<sup>948</sup> 'Australian Standards of Care and Treatment Guidelines for Trans and Gender Diverse Children and Adolescents', (n 940).

<sup>949</sup> See, for example, Brynn Tannehill, 'The End of the Desistance Myth', *The Huffington Post*.

this is central to the decision-making process, it is not accurate to ascribe the changes in legal requirements to advances in medical science.

## 6.5 Conclusion

In this chapter I have provided a detailed legal analysis of the key cases dealing with medical treatment of minors with gender dysphoria. I have argued that legal developments have emerged from shifting cultural attitudes rather than from advances in bio-scientific understanding of gender identity and how it develops. I have identified the influence of brain organisation theory on legal thinking about gender and gender identity. In two of the most influential cases – *Re Alex* and *Re Jamie* – the Court closely considered brain organisation theory as an explanation for gender dysphoria. Neither decision rested on the question of whether gender dysphoria is neurological in origin, though in both cases the trial judge expressed strong support for the theory.

Having identified judicial endorsement of a neurological explanation for gender dysphoria in the cases, and a heavy reliance on gender affirming treatment in later decisions, including the decision in *Re Kelvin* that approval is now within the scope of parental authority, the next chapter will explore the intersex cases to evaluate whether the same framework is important in those decisions.

## Chapter 7      **Intersex in the Australian Family Court**

### **7.1 Introduction**

In this chapter I expand my analysis of the legal impact of brain-sex binary theories by investigating a core question of this thesis – whether judicial understanding reflects brain-sex binary theories as a guiding concept of gender identity development in intersex children. I examine the cases in the Family Court approving medical interventions on intersex minors and conclude that there is no guiding concept of gender identity in this jurisprudence. Although the judiciary, like the medical profession, has endorsed an approach consistent with brain-sex binary theories to guide decision-making for transgender minors, the same guiding theory is notably absent in the case of intersex minors. It is puzzling that the Court has implicitly endorsed brain-sex binary theories in one context, but has failed to apply the same understanding in a different context, without acknowledgement or explanation. A similar developing consensus and conceptual framework for treatment of intersex minors in light of gender identity development would greatly contribute to confidence in the oversight capacity of the Australian Family Court in these cases. It would provide guidance for understanding the specific decisions and evaluating the legitimacy of the treatment proposals authorised.

To explore the issue of the Court's understanding of gender development, I analyse the relevant cases, of which there are only eight.<sup>950</sup> Of those eight cases, gender identity development is discussed directly or obliquely in six.<sup>951</sup> Examining those six cases reveals an apparently incoherent and contradictory understanding of gender identity. In contrast to the cases on transgender, there is no gradually evolving consensus about treatment protocols. Instead, a discourse analysis of the cases reveals a confused and contradictory picture of gender identity development. The implications of this are discussed in greater detail throughout the

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<sup>950</sup> *Re A* (n 209); *Re Lesley* (n 628); *Re Sally (Special Medical Procedure)* [2010] FamCA 237 ('*Re Sally*'); *Re Dylan* [2014] FamCA 969; *Re Sarah* [2014] FamCA 208; *Re Sean and Russell (Special Medical Procedures)* [2010] FamCA 948; *Re Carla* (n 493); *Re: Kaitlin* [2017] FamCA 83.

<sup>951</sup> *Re A* (n 209); *Re Lesley* (n 628); *Re Sally* (n 950); *Re Dylan* (n 950); *Re Carla* (n 493); *Re: Kaitlin* (n 950).

chapter and in the concluding section. The theme of an emerging consensus on gender identity development in transgender cases outlined in chapter 6 is thus a key point of comparison throughout this chapter. This comparison illuminates the extent to which the judicial dicta on intersex children is, in contrast, incoherent and confused.

The judicial comments in some of the cases are reflective of troubled concern over bodies that do not express sex clearly and cleanly, but rather mingle and incorporate aspects of stereotypically male and female sexed embodiment. This is apparent in some of the indirect comments in the judgments, such as Forrest J describing Carla's genital normalising surgery as an 'enhancement',<sup>952</sup> Mushin J's description of A's gender dysphoria as the 'appalling situation which has now arisen'<sup>953</sup> or Tree J seeing Kaitlin's inappropriate and misgendering treatment entirely through the lens of the jurisprudence on gender dysphoric minors rather than in the context of Kaitlin's actual experiences and future.<sup>954</sup>

I start this chapter by invoking the principles from *Marion's Case*, and identifying some of the values and concerns that prompted the Court to insist that some medical procedures on children be treated differently than the standard process of parental consent, in order to draw connections with key issues and concerns in the judicial response to intersex minors. I then work through each of the six relevant cases and identify the judicial dicta reflecting on the issue of gender identity. The final section of the chapter is a thematic analysis of the cases.

## 7.2 The Principles and Values from Marion's Case

In establishing a special category of medical treatment for which special consent and authorisation processes were considered necessary, in *Marion's Case* the High Court was implementing an extra layer of protection for extra-ordinary medical procedures. The Court's reasoning highlights one rationale for judicial oversight, which is that the medical perspective is

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<sup>952</sup> *Re Carla* (n 493), [2], discussed at 7.4.5 below.

<sup>953</sup> *Re A* (n 209), [13] discussed at 7.4.1 below.

<sup>954</sup> *Re: Kaitlin* (n 950) discussed at 7.4.6 below.

not always beyond question, particularly where medical issues are tangled with non-medical factors:

The medical profession very often plays a central role in the decision to sterilize as well as in the procedure itself. Indeed, the question has been 'medicalized' to a great degree. Two concerns emerge from this. It is hard to share the view of Cook J in *Re a Teenager*, that absolute faith in the integrity of all medical practitioners is warranted. We agree with Nicholson CJ in *Re Jane* that, as with all professions, *there are those who act with impropriety as well as those who act bona fide but within a limited frame of reference*. And the situation with which they are concerned is one in which incorrect assessments may be made [emphasis added].

Having identified that it is unreasonable to act with absolute and unquestioned faith in the practices of all medical professionals, the court goes on to identify a second problem arising from medicalisation:

The second concern is that *the decision to sterilize*, at least where it is to be carried out for contraceptive purposes, and especially now when technology and expertise make the procedure relatively safe, *is not merely a medical issue*. This is also reflected in the concern raised in several of the cases reviewed, that *the consequences of sterilization are not merely biological but also social and psychological*. The requirement of a court authorization ensures a hearing from those experienced in different ways in the care of those with intellectual disability and from those with experience of the long term social and psychological effects of sterilization [emphasis added].<sup>955</sup>

In other words, the Court identifies the problematic entanglement of medical and non-medical issues that can be presented as purely medical matters.

This lengthy passage from *Marion's Case* expresses a serious concern that in some cases the medical profession can become overly invested in particular paradigms of treatment. This is even more likely to occur where there is a culture of conflation between medical and non-medical issues – where the consequences of the procedure are 'not merely biological but also

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<sup>955</sup> *Marion's Case* (n 659) [Citations omitted].

social and psychological'. Normalising treatments of intersex children share these salient features. Variations in sex characteristics have been comprehensively medicalised. As noted in the Senate Committee Report, '[t]he concern expressed by the intersex community that sex differences are pathologised sits at the heart of the inquiry'.<sup>956</sup>

Given the extensive criticisms and concerns raised about the treatment protocols for intersex children and adults over the last 30 years, absolute faith in the medicalised framework is unreasonable. The issues around medical normalisation are not merely medical or biological issues, but have profound social and psychological meanings. The Senate Committee report refers to one manifestation of this as 'encapsulation' whereby medical needs are intertwined with social and cultural considerations to make it appear that all treatment rationales are linked to explicitly biomedical need. For example, as noted in the Senate Committee Report, clinicians cite cancer risk to justify gonadectomy.

...clinical intervention pathways stated to be based on probabilities of cancer risk may be encapsulating treatment decisions based on other factors, such as the desire to conduct normalising surgery.... Treating cancer may be regarded as unambiguously therapeutic treatment, while normalising surgery may not.<sup>957</sup>

A report commissioned by the Australian Human Rights Commission reinforces this reading of the justification for establishing a special category of medical procedures:

Doctors play a central role in what is not just a medical decision, but absolute faith in the integrity of all medical practitioners is not warranted; it is possible that parents, other family members, and carers may have conflicting interests which would influence their decision.<sup>958</sup>

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<sup>956</sup> Senate Committee Report, (n 2) 108 [5.63].

<sup>957</sup> Ibid. 91

<sup>958</sup> Susan Brady, John Britton and Sonia Grover, Australian Human Rights Commission, *The Sterilisation of Girls and Young Women in Australia: Issues and Progress*, Report (2001).

In the case of intersex children, the conflicting interests might include adherence to gender stereotyping, the desire to have ‘normal’ children with ‘normal’ bodies, and not having to consider future sexual and social complexities or challenge heteronormative assumptions about their children’s future. The report further notes that the decision in *Marion’s Case* ‘highlights the public interest in scrutinising differential and ethically contentious medical procedures for children and clearly articulated the need for heightened accountability in this type of decision making’.<sup>959</sup> Therefore, a formalised hearing and review of decision-making run by ‘those experienced in different ways’ is a necessary safeguard. The process established in *Marion’s Case* to provide heightened accountability is the requirement for authorisation by the Australian Family Court.

A key limitation of the special medical jurisdiction has been its confinement by reference to medical interventions that are characterised as ‘non-therapeutic.’ This limitation has been instrumental in removing judicial oversight from most medical interventions on intersex minors, including genital ‘normalising’ surgeries. The therapeutic/non-therapeutic distinction was adopted reluctantly by the majority in *Marion’s Case*. As I argue in Section 5.5.4, adopting that distinction as a threshold was problematic from the outset, and has proven to be a major impediment to the effective operation of the jurisdiction.

The rationales for the creation of a special medical jurisdiction in *Marion’s Case*, which we might expect to be at the forefront of judicial interpretation of the jurisdiction, are not taken up in the cases concerning intersex children. Instead, we see deference to the medical perspective and paradigm. An analysis of these cases discloses a failure by the judiciary to adequately implement the protections outlined in *Marion’s Case*, for which the special medical jurisdiction was created.

As noted in chapter 4, medical interventions on intersex children include genital normalising surgeries; commencing and maintaining hormone therapy; and sterilising procedures such as orchiectomy, gonadectomy or hysterectomy. Very often surgical procedures will be repeated

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<sup>959</sup> Ibid 8.



during childhood and into adulthood, either as a planned staged intervention, or to correct surgical problems. For example repair of hypospadias to allow males to urinate standing has very high rates of scar tissue, fistulas and other complications that require repeated surgical interventions.<sup>960</sup> Similarly, vaginoplasty often requires repeat procedures, as well as daily maintenance by stretching the constructed or extended vagina using vaginal dilators.<sup>961</sup>

For many intersex variations, and for the most common variations, extensive medical intervention is recommended and routine. Given the range of medical interventions commonly performed, and the extent to which many of these interventions need to be repeated or repaired, it is probable that, since the special medical jurisdiction was created in 1992, there have been literally thousands of major irreversible medical interventions performed on intersex children, including thousands of genital normalising surgeries.<sup>962</sup> However, only eight of these medical procedures have been authorised by a Court. Why these eight cases, which represent a minute proportion of substantially identical procedures performed, were selected as requiring Court authorisation (and by whom) is entirely unclear. It seems likely that the medical experts involved in treating intersex children have driven the medico-legal strategy. This suggests a deliberate policy of directing the judicial and legal regulation of medical interventions by cherry picking cases that are most likely to obtain approval and by cherry picking the medical evidence which is relied on. It also appears that Queensland is disproportionately responsible for relevant Family Court cases, indicating differences in disposition towards judicial oversight in different jurisdictions.<sup>963</sup>

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<sup>960</sup> Dreger, (n 601).

<sup>961</sup> Jesus, (n 531).

<sup>962</sup> See discussion in chapter 4.

<sup>963</sup> Garry Warne, 'My life of engagement with intersex issues: the getting of wisdom' <[https://www.dropbox.com/s/08apbkxw2neg02j/my\\_life\\_of\\_engagement\\_with\\_intersex\\_issues-warne-2013.pdf?dl=0](https://www.dropbox.com/s/08apbkxw2neg02j/my_life_of_engagement_with_intersex_issues-warne-2013.pdf?dl=0)>.

These cases are diverse in terms of the minor's age and capacity, diagnosis and proposed treatment regimen. There are, however, important commonalities among the cases. Most of the cases seek approval to perform potentially sterilising procedures such as gonadectomy. The focus of the applications and the reasoning in the judgments is primarily on sterilisation as a by-product of the proposed treatment regime.<sup>964</sup> A further commonality is that Court authorisation for treatment was given in all of the cases.

A number of themes and tropes emerge in the cases. A thematic analysis highlights judicial attitudes to intersex. Some startling contrasts with the judicial attitudes to transgender emerge in these materials. What also becomes evident is that, while we see distinct developments in the transgender jurisprudence, the cases on intersex do not reveal a similar development. The cases lurch between progressive and regressive, between insightful and unperceptive, from one model of gender identity development to its opposite.

### 7.3 Intersex and Gender Identity

The analysis in chapter 4 reveals two distinct bodies of scientific and clinical literature dealing with gender identity of intersex people. Although these literatures are separate and reach quite different conclusions, many of the same authors contribute to both sets of literature.

The brain-sex literature reporting on gender and gender identity of intersex people generally claims that the evidence and data support brain organisation theory. Many of the studies focus on gender development of intersex people, particularly women with CAH. This cohort is frequently described as exemplifying the role of prenatal testosterone in shaping a male brain. Studies of gender in women with CAH variation conclude that masculinised behaviour and

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<sup>964</sup> The exceptions are *Re Dylan* [2014] FamCA 969. and *Re: Kaitlin* [2017] FamCA 83. In those two cases, the applications were to administer stage 2 hormone treatment.

lesbian sexual orientation occur significantly more frequently in this cohort by comparison with other women.<sup>965</sup> These studies often don't comment on the fact that over 90% of people with 46,XX CAH identify as women. Others note that fetal androgens may have some impact on gender identity given that 5-10% identify as male, which is higher than the rate of gender dysphoria in the general population.<sup>966</sup> One study concluded that 'women with CAH reported weaker identification as females.'<sup>967</sup> Yet others explicitly acknowledge that the impact of prenatal androgen on gender identity development is not clear.<sup>968</sup> There is evidence that the extent of androgen exposure (as evidenced by genital masculinization) is not reliably correlated to masculinization of gender identity.<sup>969</sup> Despite these inconsistencies and gaps in the evidence, many of these studies are still claimed to provide evidence in support of the theory that prenatal androgen exposure produces male brains which are fundamentally different from female brains.

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<sup>965</sup> Joyce J Endendijk et al, 'Linking Prenatal Androgens to Gender-Related Attitudes, Identity, and Activities: Evidence From Girls With Congenital Adrenal Hyperplasia' (2016) 45(7) *Archives of Sexual Behavior* 1807; Sheri A Berenbaum, 'Effects of Early Androgens on Sex-Typed Activities and Interests in Adolescents with Congenital Adrenal Hyperplasia' (1999) 35(1) *Hormones and Behavior* 102; Sheri A Berenbaum et al, 'Gendered Peer Involvement in Girls with Congenital Adrenal Hyperplasia: Effects of Prenatal Androgens, Gendered Activities, and Gender Cognitions' (2018) 47(4) *Archives of Sexual Behavior* 915. However, many of these studies compare women with CAH to their female relatives rather than to the broader population. This is taken as an adequate control for social and environmental factors. Accordingly, the comparisons may not be the same across different studies. Jordan-Young, (n 1), loc 3444.

<sup>966</sup> Anat Segev-Becker et al, 'Women With Nonclassic Congenital Adrenal Hyperplasia Have Gender, Sexuality, And Quality-Of-Life Features Similar To Those Of Non-affected Women' (2020) 26(5) *Endocrine Practice* 535; Dessens, Slijper and Stenvert, (n 483); Heino F L Meyer-Bahlburg et al, 'Gender Development in Women with Congenital Adrenal Hyperplasia as a Function of Disorder Severity' (2006) 35(6) *Archives of Sexual Behavior* 667.

<sup>967</sup> Melissa Hines, Charles Brook and Gerard S Conway, 'Androgen and psychosexual development: Core gender identity, sexual orientation, and recalled childhood gender role behavior in women and men with congenital adrenal hyperplasia (CAH)' (2004) 41(1) *Journal of Sex Research* 75.

<sup>968</sup> Louise Frisén et al, 'Gender Role Behavior, Sexuality, and Psychosocial Adaptation in Women with Congenital Adrenal Hyperplasia due to CYP21A2 Deficiency' (2009) 94(9) *The Journal of Clinical Endocrinology & Metabolism* 3432.

<sup>969</sup> Meyer-Bahlburg et al, (n 966); Callens et al, (n 306**Error! Bookmark not defined.**).

By contrast, studies in the literature looking at gender assignment of intersex people usually conclude that the most reliable indicator of gender development is sex of rearing. There are, however, a considerable number of exceptions to this broad rule. Even within variations such as CAH where the large majority of people with 46,XX CAH identify as women, there is still a significant minority who don't. Gender identity development in people with variations such as 5 $\alpha$ -Reductase Deficiency (5 $\alpha$ -R2D) and 17- $\beta$ /HSD deficiency is even less predictable, with over half identifying as men despite their fetal immunity to the effect of androgens or the reduction of androgens in the prenatal hormone milieu. The 2006 consensus statement on the clinical management of intersex people summarised the picture:

Gender dissatisfaction occurs more frequently in individuals with DSD than in the general population but is difficult to predict from karyotype, prenatal androgen exposure, degree of genital virilization, or assigned gender.<sup>970</sup>

Fifteen years later, gender identity development for people with intersex variations remains difficult to predict. Although sex of rearing is the *best* indicator of gender identity, it is not a *good* indicator. Although estimates vary, somewhere between 8.5% and 20% of intersex people experience gender dysphoria.<sup>971</sup> The percentages are much higher for some variations such as 5 $\alpha$ -R2D and 17- $\beta$ /HSD deficiency, where at least one study indicates that over 60% of individuals change gender.<sup>972</sup> Unfortunately, as is clear from the clinical literature, the cases and the available information, this does not deter clinicians from predicting gender identity and performing serious, non-therapeutic, invasive and irreversible medical interventions to bolster gender assignments by altering the intersex body to appear more stereotypically male or female.

In chapter 4, after analysing the published research exploring gender identity development I examined the medicalisation of intersex and how this has impacted on individuals. I speculate

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<sup>970</sup> Lee et al, (n 19) e489.

<sup>971</sup> Furtado, Paulo Sampaio et al, 'Gender dysphoria associated with disorders of sex development' [620] (2012) 9 *Nature Reviews Urology* 620.

Ramesh Babu and Utsav Shah, 'Gender Identity Disorder (GID) in adolescents and adults with differences of sex development (DSD): A systematic review and meta-analysis' (2021) 17 *Journal of Pediatric Urology* 39.

<sup>972</sup> Heino F L Meyer-Bahlburg, 'Gender Monitoring and Gender Reassignment of Children and Adolescents with a Somatic Disorder of Sex Development' (2011) 20(4) *Child and Adolescent Psychiatric Clinics of North America* 639.

that medical interventions might contribute to gender identity diversity in the intersex community and argue that current medical practices closely resemble the treatment protocols dominant when optimal gender theory was paradigmatic. While medical practices fall squarely into line with those protocols, the explanations and justifications for these practices have undergone significant shifts. The rhetorical rejection of optimal gender theory disguises continued adherence to practices which are publicly eschewed.

Gender identity, so central to decision-making for children who are diagnosed as gender dysphoric, surfaces in the intersex cases in confused and contradictory ways. I argue that contradictory narratives of gender identity emerge from these cases. On the one hand, the conception of fixed and stable gender identity emerges, which is consistent with the 'born this way' narrative outlined in chapter 6. This conception is reinforced with arguments that gender identity is highly resilient to change, even where an intersex child has bodily sex characteristics that are inconsistent with their gender identity. For example, where a child with a female gender identity is imagined as experiencing an influx of testosterone, the hormone influx will not disrupt her female gender identity, although it may inflict psychological harm. The emergence or appearance of contradictory sex characteristics is envisioned as very likely to create trauma and distress. The conception of a fixed binary gender identity is consistent with the 'born this way' narrative, though that narrative is not invoked.

On the other hand gender identity is also configured as fluctuating, labile and susceptible to change, vulnerable to both exogenous and endogenous influences. Factors such as hormone influx, parenting, and cultural influences are identified as liable to influence or even directly alter gender identity. For example, where a child with a female gender identity is imagined as experiencing an influx of testosterone, the hormone influx will threaten to change or undermine her female gender identity. Note that the exact same scenario is sometimes imagined as leading to one outcome, and sometimes the opposite outcome. These two conceptions of gender identity both emerge in the judgments, often both surfacing in different paragraphs of a single judgment.

Below I provide an analysis of the relevant Family Court cases approving medical interventions on intersex minors. The focus of analysis is judicial conceptions of gender identity development. I will be looking for indications of a coherent understanding of gender identity, particularly at whether or not judicial reasoning expresses an understanding of gender identity as linked to brain-sex binary theories and the ‘born this way’ trope outlined in the previous chapters. I also consider the extent to which the legal paradigm has been captured by the medical paradigm, and the judicial commitment to a gender binary. Finally I examine procedural issues such as the role of intervenors and child representation to contrast the jurisprudence with the involuntary sterilisation cases leading up to and including *Marion’s Case*. The procedures in the intersex cases has meant that the evidence was not effectively challenged or tested, so that alternate perspectives and interpretations were not made available to the court.

## 7.4 The Cases

### 7.4.1 *Re A (A Child)*

The first Australian Family Court case determining an application for medical intervention on an intersex minor was *Re A (A Child)*,<sup>973</sup> heard in 1993, concerning a 14 year-old who had been born with CAH, a genetic variation affecting the adrenal glands.<sup>974</sup>

The medical response to infants born with CAH is twofold. Hormone medication may be prescribed to deal with the lack of cortisol and aldosterone. Salt supplements may be required to help retain salt. In the case of karyotype 46,XX CAH the infant will be assigned female and hormone therapy prescribed to reduce excessive androgen production. In addition, genital normalising surgery is routinely performed between the ages of 2 and 6 months. Further

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<sup>973</sup> *Re A* (n 209).

<sup>974</sup> See more detailed explanation of CAH at 4.4.2

surgeries are usually required later in life. The initial surgery will reduce the phallus to a size more typical of a clitoris. A vaginal opening may be constructed or enlarged, though often this will be deferred until puberty.<sup>975</sup> As Creighton comments, '[t]he traditional management of the virilised female infant has centred on restoring "normality."' <sup>976</sup> Usually surgery to remove the gonads will be performed at the same time as the 'normalising' surgery, or at a later time prior to puberty.

In A's case, this routine treatment regimen had been started when A was an infant. A was prescribed hormones to reduce excessive androgen production, and A's genitals had been surgically normalised. However, both A and his parents were dissatisfied with the assignment. A's parents had registered him with a male name on his birth certificate.<sup>977</sup> A had not complied with the hormone regime and his genitals were virilising. He deposed that he had a male gender identity. The application was for consent to medically and surgically reassign A as a boy.

The legal judgment and medical evidence adopt a conception of gender identity as susceptible to childhood hormone exposure. The surgeon attests that

...during her [sic] childhood the level of hormone replacement which she [sic] received was inadequate, leading to further production of masculine hormones by the adrenal gland and recurrent masculinization of the external genitalia. Coupled with this masculinization of the physical structures has been a change in the child's mental behaviour and attitude, so that she [sic] now feels that she [sic] would be much better as a male.<sup>978</sup>

This explanation reflects a belief that hormone exposure during childhood will determine or at least strongly influence gender identity development. It is assumed that if A had been disciplined into complying with his hormone treatment, he would never have developed a male

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<sup>975</sup> Lee et al, (n 19) e492

<sup>976</sup> S M Creighton, (n 525) 44.

<sup>977</sup> *Re A* (n 209) [6].

<sup>978</sup> *Ibid.* [10].

gender identity. Certainly, the majority of people with female karyotype who have CAH develop a female gender identity.<sup>979</sup> However, up to 10% of genetic females with A's intersex variation develop a male gender identity. It is assumed in the judgment that A's gender identity has been determined by A's failure to accept cortisone hormone treatment to prevent any further male hormones being produced. The case includes no exploration of the possibility that A's gender identity was already male at the time of the earliest medical interventions, in line with brain-sex binary and the 'born this way' narrative. This is a powerful early example of the conception of gender identity as fluctuating and labile. Unlike in *Re Alex*,<sup>980</sup> gender dysphoria is not configured as a pathological response to trauma, but as a preference shaped by biological influences. Here we have a narrative that competes with the brain-sex binary narrative, but does not conform with the other competing narrative from the transgender cases of psychological pathology as a result of childhood trauma.

### 7.4.2 Re Lesley

*Re Lesley*<sup>981</sup> was heard 15 years later, in 2008. Lesley was 6 years old at the time of the hearing. Lesley had variations in her sex characteristics caused by 17-β/HSD deficiency (17-β/HSD3). This variation affects people who are genetically male and have masculine gonads. As outlined in Chapter 4 (section 4.4.3 above), if a fetus is affected by this variation, their body does not produce testosterone in utero, and accordingly their genitals may appear female, or may appear to be partly male and partly female, or may look predominantly male with a small penis

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<sup>979</sup> Lee et al, (n 19) E491; LWPES ESPE CAH Working Group Joint, 'Consensus Statement on 21-Hydroxylase Deficiency from The Lawson Wilkins Pediatric Endocrine Society and The European Society for Paediatric Endocrinology' (2002) 87(9) *The Journal of Clinical Endocrinology & Metabolism* 4048. The follow up evidence is, as for most aspects of the medical treatment of intersex, patchy and scant. The validity of follow up research is compromised by the fact that very few intersex people have not had significant medical interventions, so it can be difficult to identify a control group.

<sup>980</sup> *Re Alex* (2004) 180 FLR 89.

<sup>981</sup> *Re Lesley* (n 628).



or hypospadias. Because people with this variation have male gonads (often undescended testes) the release of testosterone at puberty can lead to virilisation of the body, including the genitals.

The clinical recommendations are ambivalent about sex assignment for children born with this variation who have ambiguous genitals. During the period in which optimal gender theory held sway, the protocol for children with this variation was to assign them female. This is consistent with the view that female assignment is necessary if the penis is not 'adequate.' Accordingly, for several decades all genetically male children with 17- $\beta$ /HSD3 who were born with ambiguous genitals were assigned female and treated with regular hormone injections,<sup>982</sup> genital surgery including clitoral reduction (or amputation – see discussion 4.5.2.2 above), vaginoplasty and gonadectomy. Over time, researchers noticed that a high proportion of these children grew to develop gender dysphoria and change their gender to male. As early as 2005 the then-established practice of assigning children with this intersex variation as female was under challenge because of this evidence.<sup>983</sup> For example Bakula et al comment that 'for individuals with 5 $\alpha$ -RD-2 or 17 $\beta$ -HSD3, male rearing aligns with the likely male gender identity development, masculinizing patterns of pubertal maturation, and male fertility potential if the testes are retained.'<sup>984</sup>

The reason that a female assignment is problematic is because of the continuing compliance with the medical protocol for children with 17- $\beta$ /HSD3 who are assigned female - to remove the male gonads and surgically normalise the genitals using clitoral reduction surgery and vaginoplasty, as well as commence hormone therapy at puberty. If a male gender identity

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<sup>982</sup> Silvano Bertelloni, Eleonora Dati and Olaf Hiort, 'Diagnosis of 17 $\beta$ -hydroxysteroid dehydrogenase deficiency' (2009) 4(1) *Expert Review of Endocrinology & Metabolism* 53.

<sup>983</sup> Martina Jürgensen et al, "'Any Decision is Better Than None" Decision-Making About Sex of Rearing for Siblings with 17[beta]-Hydroxysteroid-dehydrogenase-3 Deficiency' (2006) 35(3) *Archives of Sexual Behavior* 358, 360.

<sup>984</sup> Bakula et al, (n 411), 216.

emerges at puberty, the body has been medically and surgically shaped to look female, and such treatment is irreversible.

The Consensus Statement recommendation to ‘discuss’ male gender identity and fertility during the assignment process<sup>985</sup> identifies this shifting attitude, but also reflects a concession to clinicians who continue to enforce the protocols from optimal gender era by assigning these children female.<sup>986</sup> Despite these clinical recommendations and the problems inherent if the child is assigned female with the accompanying feminising surgeries and hormone treatments, some clinicians continue to assign children with this variation female.

It is unclear from a reading of the reasons for judgment why a decision was made to assign Lesley as female, although Judge J cites affidavit evidence from Lesley’s treating endocrinologist which purports to explain the decision:

The diagnosis for [Lesley] was still evolving. I was seeking an understanding of gender identity for [Lesley] given the emerging diagnosis of 17-β/HSD deficiency. In some children with this order [sic] there is testosterone present in childhood and in such a case it would be possible to rear the child as a male and allow later virilisation to occur. However, in [Lesley’s] case her presentation demonstrates she has a complete block in the expression of testosterone within the testes and this reinforces as correct the initial decision to rear [Lesley] as a girl.<sup>987</sup>

This suggests that Lesley’s gender identity might be impacted by testosterone levels in puberty, though this also is not supported by the available evidence. According to Cohen-Kettenis, ‘the degree of external genital masculinization at birth does not seem to be related to gender role changes in a systematic way.’<sup>988</sup> It is not clear whether the term ‘virilisation’ is intended to denote development of a male gender identity. Generally, the term ‘virilisation’ is used in the

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<sup>985</sup> Lee et al, (n 19).

<sup>986</sup> Cohen-Kettenis, (n 487).

<sup>987</sup> *Re Lesley* (n 628) [25].

<sup>988</sup> Cohen-Kettenis, (n 487).

medical literature to refer to somatic effects and not gender identity. Most likely it refers to Lesley's genitals, which may have 'masculinised' only to the point of being 'ambiguous' ie not large enough to satisfy the clinical preconditions of maleness. The explanation seems to anticipate that Lesley's gender identity will remain female as long as there is no expression of testosterone within the testes during childhood.<sup>989</sup> Ultimately, this quote does not indicate how the relationship between testosterone levels and gender identity development was understood. Although it is not stated in the judgment, it is likely that genital normalising surgery had been performed before Lesley was two years old, in line with predominant clinical practice. It was likely anticipated that Lesley would be put on female hormone therapy. The application before the Court was to perform a gonadectomy.

In *Re Lesley* we see two competing conceptions of gender identity development emerging. Neither is explicit, but each informs different statements and arguments raised in the reasons for decision. The background assumption is that Lesley's gender identity is fixed and stable. Dr T, a child psychiatrist who gave evidence, deposed in his affidavit that, having assessed Lesley at age 4, 'in my clinical judgment [Lesley] clearly identifies as a girl.'<sup>990</sup> This is subsequently repeated and expanded on. 'In my opinion it is highly unlikely that [Lesley's] gender identity will alter in the future. She clearly identifies as female and it is my view that she is likely to continue to identify as a female.'<sup>991</sup> This is reinforced by concerns for Lesley's mental health if the gonadectomy is not performed and Lesley's body begins to virilise:

The likelihood is she will identify as a female for the future, that is their opinion, and if these changes come about [if the gonadectomy is not performed] it would have a devastating effect on a girl of that age.<sup>992</sup>

The underlying assumption is that Lesley will retain her female gender identity even if her body virilises and masculine characteristics begin to develop. Lesley's gender identity is configured as fixed and resilient. Any somatic ambiguity is likely to be profoundly traumatic. The judgment

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<sup>989</sup> This runs counter to theory in the medical literature, well known in 2008, that the high rates of gender identity change at puberty are likely caused by prenatal androgen exposure rather than childhood or pubertal androgen exposure. Jürgensen et al, (n 411).

<sup>990</sup> *Re Lesley* (n 628) [16].

<sup>991</sup> *Ibid.*

<sup>992</sup> *Ibid* [28].

does not mention or refer to the evidence that a substantial percentage of people with Lesley's variation of sex characteristics develop a male gender identity at puberty. If this knowledge was alluded to in the medical evidence it is not mentioned by the judge in his reasons for decision.

In contrast with this tacit understanding of fixed gender identity, some evidence suggests a different conception. Unlike the child psychiatrist, the paediatric endocrinologist identified in very oblique terms the issues of gender identity change at puberty (see quote above). In referring to the likely lack of testosterone expression virilising Lesley he indicates that assigning Lesley female was the right decision. This seems to assume that the expression of testosterone during childhood or at puberty would result in Lesley developing a male gender identity, thus justifying the gonadectomy to prevent this. This directly contradicts the picture of a fixed gender identity painted by the psychiatric expert.

The expert child psychiatrist deposes that Lesley's parents acted appropriately in raising Lesley as a girl and being 'consistent in their treatment of her as a girl, thus avoiding the difficulties which can arise from delayed decision-making or ambiguous implementation.'<sup>993</sup> This concern, and particularly the reference to 'ambiguous implementation,' seems to echo the medical paradigm of optimal gender theory, whereby gender identity was understood as fluid and manipulable up to a certain age. Under optimal gender theory parents were strictly instructed to avoid any 'gender ambiguity' creeping into their parenting of an intersex child.<sup>994</sup> Gender stereotypes had to be rigidly enforced to avoid introducing gender confusion into the child's psyche.<sup>995</sup>

The conception of a fixed and resilient gender identity is compatible with the brain-sex binary narrative. However, the idea of an innate gender identity developing in utero linked to the development of male or female neurological patterns and morphology is not apparent in the judgment. Unlike early transgender cases such as *Re Alex*<sup>996</sup> decided only four years earlier,

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<sup>993</sup> Ibid [16].

<sup>994</sup> Kessler, (n 453).

<sup>995</sup> Ibid.

<sup>996</sup> *Re Alex* (2004) 180 FLR 89.

there is no explicit discussion of the nature of gender identity. The competing conception of gender identity as labile and unpredictable surfaces in other parts of the judgment.

### 7.4.3 Re Sally

*Re Sally*<sup>997</sup> was decided in 2010 when Sally was 15 years old. At puberty Sally noticed lumps in her groin. When her mother sought medical advice, these lumps turned out to be undescended testes. It was only then that Sally was diagnosed with 5-Alpha-Reductase deficiency (5 $\alpha$ -R2D). The prognosis for this intersex variation is that the majority of people identify as male once they reach puberty. 'Approximately 60% of 5-reductase (5\_RD2)-deficient patients assigned female in infancy and virilizing at puberty (and all assigned male) live as males.'<sup>998</sup> However, up to 40% of people with 5 $\alpha$ -R2D identify as female, as was the case for Sally. Sally had male chromosomes and gonads, but her genitals were female in appearance. Sally herself identified as female and was extremely distressed about her body developing male characteristics. Her parents sought authorisation to perform a gonadectomy.

In this case, the background assumption is that Sally's female gender identity is fixed and stable. Sally herself deposed to this.<sup>999</sup> It is assumed that her gender identity is established to the point that the emergence of male characteristics is traumatic. '[Sally] has a fixed female gender identity and sees the presence of gonads and the risk of further masculinisation as extremely distressing.'<sup>1000</sup>

However, there is a lengthy section in the reasons for decision where a different conception of gender identity is relied on. This section of the judgment is addressing the body of research

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<sup>997</sup> *Re Sally* (n 950).

<sup>998</sup> Lee et al, (n 19).

<sup>999</sup> *Re Sally* (n 950) [20].

<sup>1000</sup> Ibid.

(discussed at 4.4.3 and 7.3 above) which demonstrates that the majority of children with this intersex variation develop a male gender identity at puberty, even if they are reared female and initially identify as female.<sup>1001</sup> The development of gender identity is difficult to predict in early childhood, as gender identity changes usually occur much later:

Gender role changes were reported in 56–63% of cases with 5 $\alpha$ -RD-2 and 39–64% of cases with 17 $\beta$ -HSD-3 who were raised as girls. The changes were usually made in adolescence and early adulthood.<sup>1002</sup>

This research is mentioned in the medical evidence that is relied on by Sally's parents in the proceedings.

This body of research presents an impediment to approving a gonadectomy for Sally, since it implies that her gender identity may well change. In seeking to overcome this impediment, Murphy J sets out two explanations which directly contradict the idea of a fixed and stable gender identity. Both of these explanations relate to the claim that the research in question was primarily reporting on intersex children in developing countries.

The first explanation relates to a speculation put forward by the medical experts in this case and in the literature more widely that the change of gender identity can be explained by the advantages that accrue to men in patriarchal societies. 'There may be significant cultural issues attaching - for example to the importance or dominance of male sexuality within the culture - that might explain the desire to later change from female to male identity.'<sup>1003</sup> This speculation echoes similar comments in the clinical literature, though it is not borne out by the research.

In some of the studies, it is stated that the high percentage of gender role changes can be explained by the cultural advantages of the male role. The first studies reported on groups of affected individuals who lived in societies

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<sup>1001</sup> Cohen-Kettenis, (n 487).

<sup>1002</sup> Ibid; J K Hewitt and Garry Warne, 'Management of disorders of sex development' (2009) 3(1) *Pediatric Health* 51.

<sup>1003</sup> *Re Sally* (n 950) [43].

where the male role had a higher social status. However, our data show that a considerable number of affected persons who lived in societies that may pressure them to make a role change remained in the female role, whereas role changes did occur in societies where male and female roles are relatively equally valued.<sup>1004</sup>

The argument itself reflects an assumption that gender identity is influenced by exogenous cultural factors such as perceived advantage of living in a particular gender role. This reflects a conception of gender identity as malleable and plastic, within our control and able to be chosen for strategic social advantage.

The second explanation offered by Murphy J to dismiss the research is that in countries such as India and Pakistan intersex children are not medically managed from birth – they did not ‘have the opportunity for treatment,’ as Murphy J puts it. Justice Murphy quotes one of the medical experts:

‘it is my understanding that the vast majority of individuals with 5 ARD who changed their gender identity did so following puberty when they were subjected to increased testosterone, in other words very few reported gender dysphoria during their early childhood.’<sup>1005</sup>

The implication here is that children with 5 $\alpha$ -R2D whose bodies are left with male gonads intact experience an influx of testosterone at puberty, resulting in a change of gender identity. This suggests a conception of gender identity which is susceptible to biological influence. The impact of the influx of hormones and resultant virilisation does not just cause distress, but also triggers a change of gender identity.

In *Re Sally*, the discussion reflects once again two inconsistent conceptions of gender identity. On the one hand, gender identity is configured as fixed and stable. Again, this is compatible with the brain-sex binary narrative, but does not necessarily reflect all of its features. On the other hand, the reasoning relies on the idea that gender identity can be shaped by broad

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<sup>1004</sup> Cohen-Kettenis, (n 487).

<sup>1005</sup> *Re Sally* (n 950) [44]

cultural factors such as patriarchal structural inequality as well as biological factors such as pubertal hormonal influx.

#### 7.4.4 Re Dylan

*Re Dylan*<sup>1006</sup> was heard in 2014 at the Brisbane registry of the Australian Family Court. It was an application for Dylan, 15 years old, to be given testosterone to develop male puberty. Dylan was born with a form of Congenital Adrenal Hyperplasia (CAH) which meant he, like A 21 years earlier, had female chromosomes and gonads, but male genitals. His CAH was not detected until he was 15 months old. Dylan had developed a male gender identity which medical experts deposed was stable.<sup>1007</sup> Medical evidence was that Dylan lacked sufficient maturity to be Gillick competent, but nevertheless he expressed a male gender identity and a wish to undergo the treatment. The judgment refers only briefly to gender identity development and expresses no views, directly or obliquely, relevant to any theory of gender identity development.

#### 7.4.5 Re Carla

The facts in *Re Carla*,<sup>1008</sup> heard in 2016, were on all fours with *Re Lesley*. Like Lesley, Carla was diagnosed with 17- $\beta$ /HSD deficiency. Like Lesley, Carla had a male karyotype and male gonads. Carla was born with ambiguous genitals and had been subjected to genital normalising surgeries in infancy. Justice Forrest describes the surgery as having ‘enhanced the appearance of her female genitalia.’<sup>1009</sup> The application was for a gonadectomy to be performed, and it also foreshadowed further genital surgeries and lifelong hormone therapy.

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<sup>1006</sup> *Re Dylan* [2014] FamCA 969.

<sup>1007</sup> *Ibid* [16] and [23].

<sup>1008</sup> *Re Carla* (n 493) [25].

<sup>1009</sup> *Ibid* [2].



Most of the discussion in the judgment is consistent with the concept of gender identity being fixed and stable. Expert evidence given by a child psychiatrist who assessed Carla at age four deposed that he ‘formed the opinion that Carla had developed a female gender identity and identified as a female and that this was unlikely to change in the future.’<sup>1010</sup> As in *Re Lesley*,<sup>1011</sup> no mention is made of the substantial and ‘well known’<sup>1012</sup> body of research showing that 39–64% of children with this intersex variation develop a male gender identity at puberty.<sup>1013</sup>

However, there is one point at which Carla’s gender identity is painted as susceptible to influence and erosion:

As well as the physical risk of cancer that Carla faces if she does not undergo the proposed surgical procedure, the doctors say Carla would, in the circumstances of the onset of male puberty, be at increased risk of developing mental health problems including, potentially, a variety of anxiety and depressive disorders and serious confusion about her gender identity.<sup>1014</sup>

Unlike the configuration of gender identity as resilient in the face of somatic ambiguity, Forrest J seems to anticipate that Carla’s gender identity is susceptible to erosion. However, in the next sentence Forrest J reverts to a characterisation of gender identity as rigid and fixed:

Carla’s parents are, quite naturally, very worried that if the procedure is not undertaken and Carla goes through male puberty that she will suffer significant distress as Carla clearly identifies herself as female.<sup>1015</sup>

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<sup>1010</sup> Ibid [15].

<sup>1011</sup> *Re Lesley* (n 628).

<sup>1012</sup> Hewitt and Warne, (n 1002).

<sup>1013</sup> See, for example, Cohen-Kettenis, (n 487); Adam Margaret P and Vilain Eric, ‘Emerging issues in disorders/differences of sex development (DSD)’ (2017) 175(2) *American Journal of Medical Genetics Part C: Seminars in Medical Genetics* 249; Heino F L Meyer-Bahlburg, ‘Introduction: Gender Dysphoria and Gender Change in Persons with Intersexuality’ (2005) 34(4) *Archives of Sexual Behavior* 371.

<sup>1014</sup> *Re Carla* (n 493) [25].

<sup>1015</sup> Ibid.

The judgment flips back and forth in its characterisation of gender identity as resilient and fixed, but labile and changeable.

The judgment in *Re Carla*<sup>1016</sup> reflects a range of serious problems with both the medical and the legal approach to intersex embodiment. Despite the rhetorical commitment to experienced multidisciplinary teams of medical experts implementing bioethical principles regarding intersex medical interventions ‘robustly, transparently and consistently,’<sup>1017</sup> the medical evidence referred to in the judgment<sup>1018</sup> does not engender confidence in that commitment.

The evidence from the medical expert Dr S who examined Carla at age 3 was that he ‘formed the opinion that Carla had developed a female gender identity and identified as a female and that this was unlikely to change in the future.’<sup>1019</sup> According to Forrest J, Dr S’s confident assessment was

based on the following observations:

- a) Her parents were able to describe a clear, consistent development of a female gender identity;
- b) Her parents supplied photos and other evidence that demonstrated that Carla identifies as a female;
- c) She spoke in an age appropriate manner, and described a range of interests/toys and colours, all of which were stereotypically female, for example, having pink curtains, a Barbie bedspread and campervan, necklaces, lip gloss and ‘fairy stations’;
- d) She happily wore a floral skirt and shirt with glittery sandals and Minnie Mouse underwear and had her long blond hair tied in braids; and
- e) Her parents told Dr S that Carla never tries to stand while urinating, never wants to be called by or referred to in the male pronoun, prefers female toys, clothes and activities over male toys, clothes and activities, all of which are typically seen in natal boys and natal girls who identify as boys.<sup>1020</sup>

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<sup>1016</sup> Ibid.

<sup>1017</sup> Department of Health, (n 517), 7.

<sup>1018</sup> Presuming that the judgment reflects an accurate picture of the medical evidence presented at the hearing.

<sup>1019</sup> *Re Carla* (n 493) [15]

<sup>1020</sup> Ibid

This experienced expert's failure to take into account the significant body of clinical literature suggesting that the majority of people with this variation develop a male gender identity is extremely concerning. It fails to comply with guidelines set out in the Consensus Statement, which expressly recommend that

the combination of a male gender identity in the majority and the potential for fertility (documented in 5\_RD2 but unknown in 17-hydroxysteroid dehydrogenase deficiencies) *should be discussed* when providing evidence for gender assignment [emphasis added].<sup>1021</sup>

Why this important body of evidence - very prominent in the clinical literature and considered at length in *Re Sally*<sup>1022</sup> - was ignored is, on the face of it, inexplicable. It does not suggest that these decisions were based on a careful and knowledgeable consideration of available relevant evidence. It is not consistent with Forrest J's assessment that 'Each [of the medical experts] is highly credentialed and experienced.'<sup>1023</sup> Not only does the conclusion about Carla's gender identity ignore a significant body of relevant evidence, it also relies on superficial and highly stereotyped observations, many of which clearly reflect the choices and preferences of Carla's parents, rather than any feelings or preferences of Carla's.<sup>1024</sup>

There are many concerning aspects of the decision in *Re Carla*, including the conclusion that the proposed gonadectomy is therapeutic and therefore does not require Court authorisation. This has been interpreted by some in the medical establishment to indicate that medical interventions performed on intersex children generally do not fall within the special medical jurisdiction. It is also clear that the recommendations of the Senate Committee Report released just 3 years before this decision have not been taken into account. Indeed, many aspects of Forrest J's judgment suggest he has not read the report – for example in the first paragraph of

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<sup>1021</sup> Lee et al, (n 19) e491.

<sup>1022</sup> *Re Sally (Special Medical Procedure)* [2010] FamCA 237.

<sup>1023</sup> *Re Carla* (n 493) [32].

<sup>1024</sup> Bernadette Richards and Travis Wisdom, (n 725), 86.

the judgment he refers to Carla as having a ‘sexual development disorder.’ This terminology is inaccurate even within a medicalised paradigm and it ignores the recommendation of the Senate Committee Report that the term ‘intersex’ should be used unless referring to a specific variation or diagnosis.<sup>1025</sup> Forrest J’s discussion of fertility indicates a failure to grasp that artificial reproductive technology makes it possible for people to have children using gametes that may not be consistent with their assigned sex.

The reliance on sexist stereotypes and heteronormative assumptions in the judgment and in the medical evidence on which it relies is profoundly disturbing. The decision, I argue, reflects an ongoing and undiminished commitment to the protocols and practices established in the optimal gender era, without reference to developing medical evidence and guidelines and without acknowledgement of the significant human rights concerns raised by intersex advocates and allies in relation to medical interventions.

#### 7.4.6 Re Kaitlin

The lack of concern about gender identity of intersex children is evidenced in the judgment in *Re Kaitlin*,<sup>1026</sup> heard in 2017. Kaitlin was born in 2000 with variations of sex characteristics diagnosed as ‘hypopituitarism’ meaning that her body did not naturally produce some hormones, including testosterone. Kaitlin was born with a male karyotype but identified as female from a ‘very early age’. All of the medical standards and protocols insist that treatment of intersex children should be by highly specialised teams of experts following close and careful study and deliberation, including close consultation with the patient and parents. Apparently, this watchful attention over many years failed to reveal the fact that Kaitlin had developed a female gender identity from a young age. Kaitlin was prescribed male hormones when she was

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<sup>1025</sup> Senate Committee Report, (n 227).

<sup>1026</sup> *Re: Kaitlin* [2017] FamCA 83.

12 in order to trigger male puberty. It seems the purpose and impact of this intervention were not explained to her adequately or Kaitlin misunderstood the purpose of the hormone treatment, as she deposed that her expectation was ‘that the hormones would “make everything right, make my breasts grow and I thought I would have a period within the month.”’<sup>1027</sup>

The judgment contains no expression of unease or concern that Kaitlin’s gender identity had been overlooked and inappropriate intervention imposed. Instead Kaitlin is configured as a transgender child with a mildly unusually medical background. ‘In 2014 Kaitlin identified in herself that she was transgender; according to Kaitlin, by that time most people who met her believed her to be a young woman anyway.’<sup>1028</sup> The only critical analysis in the judgment is devoted to the implications of the case for the jurisprudence on gender dysphoric minors, with Tree J stating that ‘[t]his case provides an interesting prism through which to consider *Re Jamie*.’<sup>1029</sup>

Justice Tree also asserts that ‘It would seem fanciful to suggest that court authorisation was required before Kaitlin could be prescribed testosterone by Dr W in 2014. And yet the effect of that testosterone would have been to irreversibly see her develop as a pubescent male.’<sup>1030</sup> Justice Tree does not explain why a requirement of Court authorisation before commencing this treatment would ‘seem fanciful’. The fact that Dr W appears to have administered inappropriate medical treatment is not the only factor that suggests that legal or administrative oversight of such decisions is needed. The procedure arguably fits within the scope of special medical jurisdiction because it meets all of the relevant criteria. The dismissive judicial response to Kaitlin’s iatrogenic gender dysphoria is disappointing. This case supports the argument that gender identity development in intersex children is not taken seriously when compared to the response to endosex children who experience gender dysphoria.

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<sup>1027</sup> Ibid.

<sup>1028</sup> Ibid [7].

<sup>1029</sup> Ibid [18]-[20].

<sup>1030</sup> Ibid [19].

### 7.4.7 Conclusions on judicial attitudes to gender identity

In summary, these cases reveal inconsistent and contradictory conceptions of gender identity. There is very little consideration of the cause, development or nature of gender identity for people with intersex variations. Even when gender identity is conceptualised as fixed and stable, the ‘born this way’ narrative is not invoked. The overall picture is incoherent. Unlike the cases on transgender, we see no development over time and there is no indication that the courts or the clinics are gradually developing a considered consensus-based approach. The later cases such as *Re Carla*<sup>1031</sup> are as incoherent and contradictory as the early cases such as *Re A (A Child)*.<sup>1032</sup>

Gender identity development is not given genuine primacy in medical and legal decision making for intersex children and minors, as revealed in these cases. Different concepts of gender identity development are used as a means to justify a pre-determined treatment plan. Gender identity is treated instrumentally in that different conceptions are used whenever they seem to justify or bolster the medical decision to intervene to normalise the intersex body.

However, a closer examination of the decisions suggests that the medical and legal decisions are consistent with optimal gender theory, which posits that gender identity will follow sex assignment, provided that the body is medically shaped to have an unambiguously sexed appearance. This is reflected in the preoccupation with early surgery aimed at normalising the bodies of these children. Very early gonadectomy is now justified by estimates of cancer risk which do not conform to the recommendations of the Consensus Statement.<sup>1033</sup> An undiminished commitment to ‘curing’ intersex is the thread that runs through the judgments, with the exception of *Re Dylan*.<sup>1034</sup> The stated concerns about gender confusion are used instrumentally to justify pre-determined decisions. Those treatment decisions uniformly comply with optimal gender protocols, and we can infer that the medical approach is that, as long as

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<sup>1031</sup> *Re Carla* (n 493).

<sup>1032</sup> *Re A* (n 209).

<sup>1033</sup> See discussion at 4.5.4

<sup>1034</sup> *Re Dylan* [2014] FamCA 969.

the body is consistent with assigned gender, gender identity will solidify consistently with the assignment.

The variations of Lesley, Sally and Carla are known to result in gender identity developing unpredictably, with the majority of people ultimately identifying as male. This evidence should prompt a cautious approach to medical interventions which are invasive and irreversible. That early interventions should be avoided and a wait-and-see approach taken seems obvious. However, for both Lesley and Carla, the medical interventions are undertaken early, and the medical evidence constructs a false sense of urgency, which is then acted on by the Judges. Justice Forrest goes so far as to suggest that early surgery is preferable because 'it will be less psychologically traumatic for Carla if it is performed before she is able to understand the nature of the procedure.'<sup>1035</sup> These attitudes reflect the practices and protocols established by Money and his colleagues in the mid-20<sup>th</sup> century.<sup>1036</sup> Although the stated reasons for the interventions have changed, the practices have not.

Both Dylan and A have the variation 46,XX CAH and both developed a male gender identity, which is relatively unusual for this variation. The difference in the medical and judicial attitudes in these two cases is striking. In *re A*, the child's development of a male gender identity is configured as a shocking failure, and that failure is unambiguously attributed to the parent's failure to adequately enforce the medical regime established by A's team of medical experts.<sup>1037</sup> In *Re Dylan*, Dylan's male gender identity is reported without adverse comment or explanation. Dylan was assigned male at birth and following his diagnosis at age 15 months, there was no plan to surgically or medically intervene. Justice Kent explains that

the medical plan recommended by the expert treating medical practitioners is to defer [a hysterectomy] until Dylan reaches the age of 18 years and is able to make his own decisions and give his own consent to that procedure.<sup>1038</sup>

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<sup>1035</sup> *Re Carla* (n 493) [30].

<sup>1036</sup> See discussion at 4.3.1 and 2.6.2.5

<sup>1037</sup> *Re A* (n 209).

<sup>1038</sup> *Re Dylan* [2014] FamCA 969 [15].

The fact that Dylan was born with genitals that were typically masculine and his variation was not known until he was aged 15 months of age likely contributes to the sense of calm acceptance within the medical evidence and the judgment. However, the medical and legal attitudes that emerge in this case are distinctly at odds with the tone and attitude in the other cases dealing with intersex minors. The application is for cross-sex hormone treatment of Dylan at 15 years of age in order to induce male puberty. The medical evidence outlined is clear, cautious and favours non-intervention in the absence of Gillick-competence. The medical plan includes a positive description of Dylan's potential fertility in producing eggs that could be frozen in anticipation of later use in artificial reproductive processes. The proposed medical plan is consistent with existing current medical evidence and shows respect for Dylan's right to embodied integrity and an open future.

The differences in attitude between the decision in *Re A*<sup>1039</sup> and *Re Dylan*<sup>1040</sup> could be interpreted to suggest a progressive development in the attitudes of the Court to diverse gender identities. I think a more accurate reading would be that these differences reflect differences in the approach of the individual medical teams. The idiosyncratic responses to A and Dylan seem to reflect idiosyncrasy in the medical attitudes, which in turn affirms suspicion that treatment of intersex people differs from one hospital to the next, from one health service to the next, from one team to the next. The judiciary are fully captured within the medical paradigm of treatment and do not challenge this paradigm or any aspect of it in any of the cases. Rather than providing an independent oversight body, the judiciary have abdicated responsibility and ceded authority to the medical profession.

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<sup>1039</sup> *Re A* (n 209).

<sup>1040</sup> *Re Dylan* [2014] FamCA 969.



## 7.5 Fertility

The emphasis on fertility and reproductive capacity as symbolically meaningful to authentic female identity for women and girls with intellectual disabilities, discussed in chapters 4 and 5<sup>1041</sup> is echoed in the attitudes to fertility in the context of assigning intersex children as male or female. While fertility is an important factor in the decision making process, it is seen as far less significant for children assigned male than for children assigned female.

Fertility is a central concern in most of the intersex cases, and the sterilising effect of the proposed treatment is regularly cited to explain why Court authorisation is sought.<sup>1042</sup> In some of the cases, fertility is not a live issue because the minor would not be fertile in either sex even in the absence of any medical intervention.<sup>1043</sup> In other cases, however, the potential for fertility is a relevant concern.

In *Re Lesley*,<sup>1044</sup> the evidence of the treating paediatric endocrinologist is that Lesley's capacity for fertility is not known. This is in line with the 2006 Consensus Statement:

In 5\_RD2 and possibly 17\_-hydroxysteroid dehydrogenase deficiencies, for which the diagnosis is made in infancy, the combination of a male gender identity in the majority and *the potential for fertility* (documented in 5\_RD2 *but unknown in 17\_-hydroxysteroid dehydrogenase deficiencies*) should be discussed when providing evidence for gender assignment [emphasis added].<sup>1045</sup>

However, in Lesley's case, uncertainty of fertility is then equated with infertility: 'the view that I have formed on the evidence is that Lesley would be unable to reproduce either as a male or a

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<sup>1041</sup> chapter 4 at 4.3.1 and chapter 5 at 5.6.1

<sup>1042</sup> See, for example, the argument made that the Court had jurisdiction in *Re Sally* because 'the orders sought are similar to those made in *Marion's Case*, in that technically they relate to the sterilisation of a child.' *Re Sally (Special Medical Procedure)* [2010] FamCA 237 [25].

<sup>1043</sup> *Re Sarah* [2014] FamCA 208; *Re Sean and Russell (Special Medical Procedures)* [2010] FamCA 948.

<sup>1044</sup> *Re Lesley* (n 628).

<sup>1045</sup> Lee et al, (n 19).

female.<sup>1046</sup> Here, rarity of Lesley's variation together with lack of evidence about potential fertility is reconfigured as a conclusion that Lesley is infertile. At the time of the case, Lesley was four years old. The possibility of fertility would seem to be a sound reason to delay a gonadectomy given the lack of urgency, but the possibility of delay is not considered.

A similar approach is taken in *Re Carla*.<sup>1047</sup> Carla had the same variation as Lesley. Justice Forrest again uses the uncertainty of fertility as a reason not to delay surgery:

the medical evidence is that even if Carla's gonads are not removed, she might still be infertile or sub-fertile given that they are intra-abdominally located.<sup>1048</sup>

The medical professionals are unable to predict Carla's fertility if the gonadectomy is not performed. This is twisted into an argument that uncertainty is substantively the same as infertility. Justice Forrest also suggests that Carla's fertility as a male would be somehow improper:

if the surgical procedure is not undertaken and the gonads are left in situ, the issue of Carla's future potential fertility raises other significant social and emotional complexities given that Carla identifies as a female and, according to the expert evidence, is likely to continue to, whilst any fertility she could potentially attain is based on male gametes.<sup>1049</sup>

These 'significant social and emotional complexities' are so unacceptable that the potential for fertility is dismissed. Despite the fact that there was no clinical urgency, Forrest J supports the medical push for early gonadectomy.<sup>1050</sup> No risks of delay are outlined, except the assertion that Carla will experience psychological distress if male puberty commences. Carla, at 6, is many

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<sup>1046</sup> *Re Lesley* (n 628) [31].

<sup>1047</sup> *Re Carla* (n 493).

<sup>1048</sup> *Ibid* [29].

<sup>1049</sup> *Ibid* [28].

<sup>1050</sup> *Ibid* [30]

years away from puberty. Carla's potential fertility as a male is dismissed as both unlikely and unpalatable.

In *Re Sally*,<sup>1051</sup> the issue of fertility is not identified or discussed in the judgment at all despite the fact that the proposed procedure would sterilise Sally permanently. It may be the case that Sally's testes would not have produced viable sperm even if the gonadectomy was not performed, but this is not stated in the judgment. Given Sally's age (15 years) and her gender identity as female, it is understandable that fertility may not be a key consideration, but it is surprising that in the course of a lengthy and detailed judgment which identifies the risks and benefits of the gonadectomy, the possibility of fertility via male gonads is not raised even briefly.

The exception to this dismissive approach to male fertility is in *Re Dylan*,<sup>1052</sup> where the judgment outlines careful consideration of fertility using Dylan's female gametes:

'In particular, it was explained to Dylan that he could potentially be fertile as a female in the future if he wished. Dylan has the capacity to have a genetic child through retrieval of his ovarian tissue and this possibility will exist, "as long as [Dylan's] ovaries remain in situ and despite concomitant testosterone therapy" that is proposed to induce male puberty.<sup>1053</sup>

The judgment refers to the medical plan to defer sterilising surgery until Dylan is 18 because '...it may still be possible for Dylan to be fertile as a female should he choose that later in life.'<sup>1054</sup> As noted in section 7.4.7 above, *Re Dylan* stands as an outlier among the cases dealing with medical interventions on intersex children for many reasons.

## 7.6 Judicial Process

The Family Court system has not engaged with the significant material and advocacy which explores and presents the lived experiences of the intersex population, nor the contested

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<sup>1051</sup> *Re Sally (Special Medical Procedure)* [2010] FamCA 237.

<sup>1052</sup> *Re Dylan* [2014] FamCA 969.

<sup>1053</sup> *Ibid* [14].

<sup>1054</sup> *Ibid* [18].

nature of medical procedures in cases that it has adjudicated - and most medical procedures on intersex children are not subject to even this limited form of oversight. The Australian Family Court cases discussed in this chapter are characterised by a consensus among the parties that the proposed procedures are in the child's best interests. In each of the 8 cases concerning intersex children which have been heard by the Court, the respondent explicitly supported the application, meaning that there was no testing of or challenge to the application or evidence supporting it. In each case, either the hospital, health authority, mother, father or some combination acted as applicant and respondent. In this sense each of the respondents is a respondent in 'name only.'<sup>1055</sup> As Pope and Richards comment in relation to *Re Carla*, 'the absence of any voice in the alternative, this application was seeking advice and approval for an already identified path.'<sup>1056</sup> The court processes are not well designed to challenge the pre-determined paths of medical intervention.

While the *Family Law Act 1975* (Cth) s 68L explicitly provides for children and minors to be represented by an independent Children's Lawyer, an ICL has been appointed in only one of the eight cases concerning intersex children, *Re Sarah*.<sup>1057</sup> This is ironic given that Sarah was 17 years old at the time of the hearing, and was found to be Gillick competent. By contrast, in the cases *Re Lesley*,<sup>1058</sup> *Re Carla*<sup>1059</sup> and *Re Sean and Russell*,<sup>1060</sup> concerning very young children, no independent children's lawyer was appointed. In *Re Sean and Russell*, Murphy J provided a lengthy explanation for his decision which focussed on the consensus and lack of dispute

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<sup>1055</sup> *Re Sarah* [2014] FamCA 208 [16].

<sup>1056</sup> Bernadette Richards and Thaddeus Mason Pope, 'Stretching the Boundaries of Parental Responsibility and New Legal Guidelines for Determination of Brain Death' (2017) 14(3) *Journal of Bioethical Inquiry* 323.

<sup>1057</sup> *Re Sarah* [2014] FamCA 208.

<sup>1058</sup> *Re Lesley* (n 628).

<sup>1059</sup> *Re Carla* (n 493).

<sup>1060</sup> *Re Sean and Russell (Special Medical Procedures)* [2010] FamCA 948.

regarding the proposed procedure. Similar reasons were relied on in *Re Lesley*. The possibility was not adverted to in *Re Carla*.

In *Re Lesley* Barry J commented:

In reaching the conclusion I am only too conscious of anecdotal accounts of individuals having gender reassignment procedures later in life, having great difficulty accepting the situation that has been thrust on them. On the medical evidence available that would not be indicated as likely in Lesley's case. I note that many of the accounts are sensationalised in the media. I far prefer the evidence set out in the medical reports.<sup>1061</sup>

Justice Barry was aware of dissenting voices among those with lived experience, but he chose to discount them. His reasons for ignoring the dissent were twofold: firstly that dissatisfaction later in life is not likely in Lesley's case. Secondly, he argued that the media sensationalises dissenting accounts, but he apparently makes no further inquiries about those media reports.

In five intersex cases put before the Australian Family Court, an intervenor or amicus was appointed by the Court, usually the relevant state child welfare department. In *re Sally*,<sup>1062</sup> Murphy J appointed as Next Friend the representative of the Department of Community Services. This advocate made some independent submissions, including opposing the appointment of an Independent Children's Lawyer, but did not test or challenge any of the medical evidence.<sup>1063</sup> In the other cases, none of the intervenors or amici curiae opposed the applications, made relevant submissions, sought to adduce other evidence, challenged any medical evidence or cross examined any of the medical witnesses. In other words, a commonality among all of the cases concerning intersex children is the lack of any challenge to the medical evidence, any testing of the evidence via cross-examination or any attempt to adduce contradictory evidence. However, it should be noted that, notwithstanding the ratio of *Brown v Dunne*,<sup>1064</sup> a judge does not have to accept unchallenged evidence. In *Various Claimants v Giambrone & Law (a firm) & Ors*,<sup>1065</sup> Foskett J rejected the contention that he was

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<sup>1061</sup> *Re Lesley* (n 628) [48].

<sup>1062</sup> *Re Sally (Special Medical Procedure)* [2010] FamCA 237.

<sup>1063</sup> *Ibid* [12].

<sup>1064</sup> *Browne v Dunn* (1894) 6 R. 67, HL.

<sup>1065</sup> [2015] EWHC 1946 (QB).

necessarily bound to accept evidence that had not been specifically challenged by the other side in cross-examination.

This failure to implement processes to test the evidence and the uncritical adoption of the medical evidence is concerning in many of the cases, where the medical evidence does not represent a consensus within the medical community and the clinical literature. This is in stark contrast to the procedures and adversarial nature of the proceedings on sterilisation of intellectually disabled women leading up to and including *Marion's case*.<sup>1066</sup> Concerns expressed over decades by intersex adults and organisations, by dissenting clinical voices, and by human rights institutions have been disregarded. The lack of effective contradictor in every one of these cases has meant that contestable and selective evidence has gone unchallenged. This represents a significant deficiency in the ability of the Australian Family Court to provide appropriate oversight and monitoring.

The Australian Family Court has failed to properly utilise its procedures in order to ensure that the best interests of intersex children have been thoroughly investigated and understood within the medical context, and within the human rights context.

## 7.7 Conclusion

These cases present a disturbing contrast to the gender dysphoria cases in many ways, but particularly in the stark differences in the developing judicial attitudes and understanding of gender identity development. Gender identity issues are used instrumentally to support whatever interventions are proposed by the medical team. Mutually contradictory evidence and conceptions are put forward, often within a single judgment. The decisions demonstrate no genuine concern for the possibilities of iatrogenically-induced gender dysphoria and the suffering and distress that might induce. This is in stark contrast to the sensitivity and concern evident in the cases dealing with transgender minors.

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<sup>1066</sup> See discussion at Chapter 5, section 5.5.1.

It does not seem that these cases reflect a careful and considered rejection of brain-sex binary theories or any other neurological theories of gender identity. Rather, they feature a chaotic collection of post-hoc justifications for pre-determined clinical decisions. These clinical decisions appear largely based on protocols and practices that have changed very little since the days of optimal gender theory. The same pre-occupation with female fertility and male penis size is evident. While phallic size is not explicitly linked to gender identity development as under optimal gender theory, the assumption is that life as a male with a small penis is unthinkable.

The available medical, scientific and clinical evidence on the development of gender identity in intersex individuals indicates that gender identity development is very difficult to predict. Despite the popularity of brain-sex binary theory and its appearance in gender dysphoria cases, studies have not established a clear and uncomplicated link between prenatal androgen exposure and male gender identity development. That is exemplified in studies of 46,XX CAH children, who often exhibit ‘tomboyish’ (ie stereotypically masculine) behaviour in childhood but almost always develop a female gender identity.

The Consensus Statement reinforces this view:

Gender dissatisfaction occurs more frequently in individuals with DSD than in the general population but is difficult to predict from karyotype, prenatal androgen exposure, degree of genital virilization, or assigned gender<sup>1067</sup>

Other treatment protocols and guidelines also emphasise this.<sup>1068</sup> The judicial decisions (and the medical evidence on which they are based) ignore this caution and treat gender identity as unproblematic and foreseeable, ignoring the substantial body of clinical literature that suggests otherwise. In *Re Carla*,<sup>1069</sup> *Re Lesley*<sup>1070</sup> and *Re Sally*,<sup>1071</sup> the psychiatric evidence, presumably tendered by highly specialised experts working within dedicated teams, treats gender identity

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<sup>1067</sup> Lee et al, (n 498).

<sup>1068</sup> Consortium on the Management of Disorders of Sex Development, *Clinical Guidelines for the Management of Disorders of Sex Development in Childhood* (Intersex Society of North America, 2006) 25.

<sup>1069</sup> *Re Carla* (n 493).

<sup>1070</sup> *Re Lesley* (n 628).

<sup>1071</sup> *Re Sally (Special Medical Procedure)* [2010] FamCA 237.

as static and predictable from a very young age, thereby justifying early surgeries. At the same time and within the same judgments, there are suggestions that the developed gender identity might be destabilized and vulnerable to testosterone surges or other endogenous influences if medical interventions are delayed. In chapter 4 I discussed the tendency within the medical paradigm of intersex to believe that medical interventions always enhance the lives and experiences of intersex patients. Adverse outcomes are never attributed to the interventions themselves, but always to external factors that undermine the therapeutic intention. Clinicians do not examine whether the intersex patient might be better without intensive medicalisation of their body, behaviour and identity. In *Re Sally*, Murphy J quotes from a treating specialist Dr T in response to the body of evidence that most people with Sally's variation identify as male at puberty: 'Most of the literature reports on individuals in developing countries who did not have the opportunity for treatment.'<sup>1072</sup> This configures the emergence of a male gender identity as a failure due to lack of medical intervention.<sup>1073</sup>

Despite this incoherence and inconsistency, the decisions, like the proposed treatment regimens, reflect an overall uncritical assumption that gender identity development is predictable, static and fixed, as well as normally correlated to gender assignment. The implication is that, with the help of early medical interventions, a stable and orthodox gender identity can be achieved. In the absence of medical intervention, gender is unstable, volatile and labile, hostage to the unruly hormones that threaten to undermine the established identity and produce inconsistent secondary sex characteristics that betray the gendered body. The spectre of abjection is invoked throughout the cases – the abjection of unwelcome body changes that betray the security of the sex assignment.

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<sup>1072</sup> Ibid

<sup>1073</sup> It also ignores the body of evidence that the majority of people who have had an 'opportunity for treatment' also develop a male gender identity. Byers et al, (n 471).





## Chapter 8 Conclusion

Our system of gender relies heavily on a neat binary that law is called upon to shore up by the categorising of all sex and gender identities into fixed, abiding states of being ‘male’ or ‘female.’ Neuroscience, in the form of brain-sex binary theories, lends credibility to social and therefore legal explanations of how men and women end up behaving or identifying as the ‘opposite’ sex, as well as claiming to explain the ‘crossed wires’ of same-sex attraction. Brain-sex binary theories, with the help of law, order and regulate some of the most contested and disruptive contemporary issues in sexed and gender identity. They offer an allegedly stabilising biological explanation where ambiguity arises in gendered behaviour and gender identities. As our commitment to binary sex categories has intensified over recent decades, the concept of gender identity has ignited an interest – fast becoming an entrenched belief -- in the idea that a person’s true sex is determined by their internalised identity, situated primarily in the brain.

As these theories gather credence and become a belief system, they become increasingly entwined with legal processes, becoming further entrenched and legitimised. As shown, the Australian Family Court cases approving medical interventions for trans minors have identified brain organisation theory as providing a satisfying and credible explanation for the causes of ‘gender dysphoria,’ though direct approval is confined to comments made in obiter in the early cases. From around 2015 onwards, despite the increasing numbers of cases brought to Court, all mention of etiology or causes of gender dysphoria disappears from the judgments and the discussion shifts to established treatment protocols. In 2017, the Court determined that the global consensus on treatment that has emerged justifies characterising medical interventions as therapeutic. In the absence of conflict among stakeholders or other complications, medical treatment for gender dysphoria no longer requires court approval.<sup>1074</sup> The medical consensus on treatment protocols is ostensibly the foundation for this change in jurisprudence. Notably,

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<sup>1074</sup> *Re Kelvin* (n 14).

the treatment protocols are consistent with brain-sex binary theories, although they are not explicitly based on them.

Brain-sex binary theories have permeated popular culture and discourse in what I have described as the dominant cultural narrative of ‘born this way’. The ‘born this way’ narrative expresses the core concepts of brain-sex binary theories and the corresponding idea that gender and sexual orientation are innate, biological, unchanging, irreducible aspects of identity, although neither the medical evidence nor the judicial material explicitly endorse this narrative. As the ‘born this way’ narrative is increasingly viewed as the most ethical and progressive understanding of gender development, this has profoundly influenced both law and medicine in their understanding of trans identity.

The Australian Family Court cases approving medical interventions on children with intersex variations reflect a very different attitude to gender identity and gender dysphoria. Gender identity is configured as unreliable, labile and susceptible to outside influence. In places, it is suggested that gender identity development is open to choice, such that an intersex child might select a gender that has significant cultural advantages. At the same time, the evidence and discussion in the cases reflects the assumption that gender identity, once it develops or is manufactured, is rigid and static, resistant to any attempt to change it. The medical and judicial understanding of gender identity development in the intersex cases is confused and incoherent.

However, a deeper understanding of the history of medicine’s engagement with the intersexed body reveals that underlying the confusion is an unspoken commitment to gender theory from a previous era of treatment. The cases do not express adherence to brain-sex binary theories, but instead to what has been called *optimal gender theory*, which was first developed by John Money in the 1950s. The tacit assumption apparent in the medical evidence is that gender identity will follow unproblematically from sex assignment, provided that the patient and his or her family complies strictly with the medical regime implemented by the clinicians. This reflects the view of gender identity as static and unchanging once it develops. At the same time, it suggest that gender identity is manipulable in response to the medical treatment, particularly if treatment is begun in infancy. There are suggestions that gender identity is also volatile and

susceptible to exogenous influences including pubertal hormone fluxes and social or cultural factors, particularly if the patient and his or her family fail to comply exactly with the prescribed medical regimen.

The decisions to surgically and medically assign Carla and Lesley as female, asserting stable and fixed gender identity at an early age, in defiance of a well-know body of evidence that the majority of people with their variation develop a male gender identity at puberty, seems at first inexplicable.<sup>1075</sup> However, it is entirely consistent with the treatment protocols developed by John Money based on his theory of optimal gender, whereby a child's gender is relatively fluid until they reach the 'gender identity gate' at around age three or four years. Under Money's treatment protocols, children born with an 'inadequate' penis cannot develop a stable male gender identity even if they are raised unambiguously as boys. Accordingly, all intersex children with 'ambiguous' genitals, no matter their variation, karyotype or gonads, had to be assigned female. This explains the decisions in *Re Carla* and *Re Lesley*. In both cases, the Court uncritically endorses and adopts the medical evidence without testing or challenge. This legal approach leads to significant harm for intersex minors, who are subjected to highly invasive involuntary medical interventions aimed at shaping their gender identity as well as their bodies to an orthodoxy consistent with a rigid sex binary. This has authorised human rights violations and betrayed the embodied integrity of all intersex minors who are vulnerable to these medical regimes.

To some extent, the format of the proceedings in the special medical jurisdiction contributes to this unquestioning adherence to the medical perspective because no competing or alternate perspective is made available. It was open for the Bench to appoint an Independent Children's Lawyer in all cases, and particularly those where the child was very young, such as *Re Carla* and

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<sup>1075</sup> See Sections 7.4.2 and 7.4.5 above.

*Re Lesley*. However, in seven of eight cases concerning medical intervention on intersex minors, no ICL was appointed. This does not relieve the judiciary of the obligation to provide effective oversight in the welfare jurisdiction. Moreover, there is no duty on a judge to accept untested evidence such as the medical evidence offered in the intersex cases to support the proposed gonadectomies or other invasive medical treatments.<sup>1076</sup>

In contrast with early cases such as *Corbett*, or *Re C and D*, where the judiciary assert an understanding of sex and gender that is quite different to the then-dominant medical model, the Australian Family Court judiciary working in the special medical jurisdiction are fully captured within the medical paradigm. From *Re A (A Child)* to *Re Kaitlin*, the judicial ratification of the medical perspective in the intersex cases is total and unquestioning.<sup>1077</sup> Accordingly, where the medical specialties have adopted a framework consistent with brain organisation theory, as in the trans cases, that perspective is given effect in the judicial decisions. In those cases the minor's internalised view of their sex was accepted as their brain sex, with which their body did not comply and for which treatment was appropriate to remedy this misalignment. In the case of intersex, the medical specialists have not adopted brain-sex binary theories as central to their treatment protocols. In those cases, the judiciary have given effect to the decisions of the treating specialists, in line with Money's optimal gender theory.

This thesis has presented critiques of both brain-sex binary theories and optimal gender theory which represent both current and superceded bio-scientific thinking about the nature of sex and gender. This thesis has identified deep and fundamental flaws in both theories. This raises the question of how law should make decisions about, for example, the appropriate sex to which an intersex child should be assigned, or the validity of treating a minor with 'gender dysphoria' to bring his or her body into alignment with their identity. If both of these recent theories are rejected, what should be directing the legal recognition and categorisation of people's sex? How can decisions about the legitimacy of medical interventions be evaluated?

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<sup>1076</sup> *Various claimants v Giambrone & Law (a firm) & ors* [2015] EWHC 1946 (QB).

<sup>1077</sup> As I have demonstrated in Chapter 7.

I argue law should not act on any theory purporting to identify a person's true sex. Instead, the profound complexity of sex/gender must be acknowledged, indicating that bio-science does not fully understand sex/gender or the mechanisms of gender identity formation and development. Research into the nature of sex/gender and its development is important and necessary, but must be conducted as far as possible without reliance on sexist assumptions and stereotypes and without attempting to impose reductive essentialist ideas about the nature of sex/gender and the nature of biology/culture. Despite the significant differences in the explanations of how gender identity develops, theories seeking to identify the biological determinates of 'true sex' and gender start from the same place – that sex and gender are natural binaries that naturally correlate, that biology determines sex, which in turn determines gender, and that sex and gender express universal foundational categories which are or become rigid and static.

Writing in 1899, physician Xavier Delore celebrated the transformation of the status of the hermaphrodite from a supernatural creature to a human with identifiable pathologies, claiming that the hermaphrodite

now no longer has adoring admirers who render it a cult; it is no longer the object of those gracious legends of Greek mythology; it is no longer sung of by the poets of Rome; philosophers no longer utilize its defective structure in order to palliate, by insidious sophisms, the licentiousness of their morals; ... theologians will no longer use it in order to elucidate ridiculous heresies; but it also will no longer engender that sentiment of horror which unenlightened civilizations drew from it, [only] to exterminate it as a monster!<sup>1078</sup>

Delore placed the hermaphrodite in the realm of medical science and medical doctors, who could 'mark for it its true place.'<sup>1079</sup> Delore conveys a sense of relief at the anticipated liberation from oppression. His observation reflects his belief that medical science will support and help people with intersex variations and their parents, and this conviction is shared by modern doctors. Medical professionals are motivated to help and support people with intersex variations as they have sought to help and support people suffering gender dysphoria.

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<sup>1078</sup> Xavier Delore, 'Des Stapes de l'hermaphrodisme,' *L'Echo medicale de Lyon*, 4, no. 7 (1899): 193-205 and no. 8 (1899) 225-232, 230 cited in Dreger, *Hermaphrodites and the Medical Invention of Sex*, (n 205).

<sup>1079</sup> Ibid.

However, as I have argued throughout the thesis, the adherence to a rigid sex binary has undermined medicine's aspirations to provide effective help and support.

The medicalisation of intersex since the Victorian era emerged from the conviction that intersex embodiment was a natural, though defective, human form rather than a mythological or supernatural phenomenon. Biomedicine offered redemption through developing knowledge and understanding of the 'true sex' of the apparent hermaphrodite. Over intervening centuries, medical science has continued to assert authority over understanding and treating intersex variations. The interest and engagement with intersex has waxed and waned in accordance with social and political anxieties in response to perceived threats to established category boundaries between the sexes and races. Concerns and anxieties about women's political ambitions, perceived increases in homosexual behaviour, or racial 'passing' have kindled sharp interest in the medical management of intersexed bodies.<sup>1080</sup> A key aim of medicalisation has been to quell the disruptive potential of the liminal person who can pass as male or female and who inherently challenges the natural status of binary sex.

Biomedicine's promise was both social – to shore up and naturalise the boundaries between male and female – and individual. By identifying the biological sign of true sex, medical experts initially offered certainty about the hermaphrodite's place within the established sex binary. Over the decades and particularly since the early-to-mid 20<sup>th</sup> century, medicine has offered invasive treatments to change the intersexed body. While medical efforts were partly focussed on treating the urgent and life-threatening conditions that arise out of some intersex variations – such as salt-wasting for some CAH variations – the development of hormone therapy, anaesthesia and surgical techniques made it possible to re-shape the intersex body to at least an appearance of orthodox male or female embodiment. These same technologies also made it possible to change the bodies of trans people to express their inner identity more authentically. In both cases, this has transmuted into a 'cure' for bodies and identities which threaten to transgress the male/female border. This has been welcomed by many transgender people, who

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<sup>1080</sup> See discussion in Section 2.6.2 above.

actively seek access to the medical technologies. However, the ‘treatment’ has been imposed on people with intersex variations, often at a very early age, and often with very negative consequences in terms of gender identity and embodied integrity. That imposition has been regularly supported by legal determinations.

In this thesis I have tested the theory that the latest conception of a biological determinant of true sex – the brain – has been influential in judicial decisions of the Australian Family Court relating to medical interventions on transgender and intersex minors. This conception of a brain-sex binary is one stage in the complex relationship between sex and gender that has been scrutinised in modern feminist and scientific theory. There have been various moments in the recent history of the sexed body which represent attempts to identify a single biological marker of each human’s ‘true sex’. Each different candidate has impacted on the legal engagement with intersex people by presenting different frameworks that drive medical decisions and treatment protocols. Each of these frameworks has distorted and deflected the scientific inquiry by directing research down a path to affirm long-held reductive stereotypes which essentialise binary sex and gender. These frameworks share a belief that sex and gender are biologically-determined natural binaries and this belief has shaped and directed the medical research and the legal uptake of that research.

The fundamentals of brain-sex theory are wedded to a binary conception of gender which is generated as a by-product of biological sex differentiation processes in utero. The theory that binary sex produces neural sex, experienced as gender, is the most recent framework which naturalises established sex/gender categories and affirms pre-existing beliefs about sex that are conceptualised as universal across time and place.

Although it promotes a very different approach to defining legal sex and gender, optimal gender theory shares many of these characteristics. Optimal gender theory espouses a naturalised understanding of sex and gender as a universal binary. Sex and gender are seen as natural correlates, with dissonance emerging as a result of a biomedical defect or dysfunction. Gender is not, as with brain-sex binary theories, understood as congenital and fixed at birth. Instead, it emerges consistently with genital appearance, as a result of socialisation processes



and medical interventions. Once established, though, gender is conceptualised as rigid and static. The period of malleability is brief, allowing an opportunity for the gender of intersex children to be shaped via surgical, social and hormonal interventions and inviting urgent legal determinations.

The underlying impulse of law, while deferring to dominant medical paradigms, is to shore up the established boundaries of sex and gender, conceptualising them as natural universal categories of male and female incorporating masculinity and femininity. Law increasingly accommodates a radical disconnect between sex – biological characteristics of male and female – and gender – an internalised masculine or feminine identity or sexual orientation. Partly this accommodation is grounded in the perception that gender, like sex, is biologically determined and therefore outside the conscious control and agency of the individual. This disconnect does not disrupt or trouble the binary claims of sex and gender categories. By suggesting a biological etiology for boundary-crossing transgressions such as homosexuality or transgender identity, the brain-sex binary re-writes the boundaries and re-naturalises the categories by presenting unorthodox gender traits as biological ‘wire-crossing.’ This effectively weakens the transgressive potential of unorthodox genders and sexualities. The brain-sex binary, and the boundaries that separate men and women, are not threatened by the spectre of men becoming women, or expressing a ‘naturally’ feminine sexual attraction to men. These gendered impulses and identities are determined by brain development that has been hijacked by unorthodox hormone exposure in utero. Biological processes have diverted from their orthodox paths, producing people who have, for example, a male sex and distinctively feminine gender traits. Despite the crossed wires of the individual, the categories of male and female remain unbreached and unsullied.

Law’s reliance on neurology’s “brain-sex binary” is no more helpful than earlier biological measures in ensuring just outcomes. What is needed is greater acceptance of dynamic complexity and diversity in the domain of sex/gender. Law must retreat from its determination to create, define, and regulate artificially bounded sex categories of male and female which can lead to violations of embodied integrity and a betrayal of autonomous rights of intersex minors.

Instead, law must allow liminal embodiment and identity to be normalised and accepted. That is not to argue that all intersex or transgender people have to remain 'liminal', but rather that law should support diversity of identity and embodiment and allow people to work out their own needs. However, to date and despite clear evidence of the complexities, contradictions and potential injustices of law's approach in these cases, we are left with an abiding belief in 'true sex'.



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