DELORES DOWN THE RABBIT-HOLE: WESTWORLD, ANDROIDS, CONTRACTS AND THE RULE OF LAW IN AUSTRALIA

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Popular culture offers a lense through which we can understand and examine how law functions in practice. While doctrines and legal themes are slow to change, the cultural values that underpin both how people understand law and experience it in their lives can change rapidly as society shifts to a digital age. The dystopian sci-fantasy *Westworld* is set in a world without the rule of law, rather it is governed by click-wrap contracts and a shadowy corporate culture where android hosts offer a sublime vacation in exchange for the complete commodification of the human "guests", mirroring the rise of surveillance capitalism in the real-world. This article will examine how *Westworld* might work in practice, and show that the concepts that underpin it, killer sexbot androids notwithstanding, are not so very far removed from our present-day common experience of law in Australia.

I INTRODUCTION

In his provocative yet persuasive polemic, Lawrence Rosen argues that 'the 'certainty' of law depends of the 'uncertainty' of its basic concepts',¹ cultural artefacts that are drawn from, interlaced with, and anchored to a 'particular historical time and place'. While the 'rule of law' remains a 'powerful rhetorical weapon'² to articulate the supposedly normative rights and obligations of citizens, non-citizens, the state and non-state actors, its mechanisms and frameworks are rooted in cultural uncertainties, mutable over time, reflecting society and its associated meanings and values. Despite the 'hyperbole and overgeneralisation'³ about the effects of digital technology and innovation on the law, old doctrines and frameworks continue to be applied and adapted for new digital settings, such as in contracts, torts and property law, just as the law has historically responded to technology. Rather, 'transformation' occurs 'in the material substrate of what has been known as law'.4

In an age of information, the 'ownership and control of information has become one of the most important forms of political and economic power'. ⁵ Transnational and supranational corporations that trade in data, information and cultural products, have built a 'hegemonic economic, political and cultural dominance', ⁶ such that our traditional understanding of law as dominated by the sovereignty of nation-states, ⁷

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¹ Lawrence Rosen, Law as Culture: An Invitation (Princeton University Press, 2006) 96.

² Murray Gleason, 'Courts and the Rule of Law' *The Rule of Law Series: Melbourne University*, 7 November 2001.

³ Peter Grabosky, 'Virtual criminality: Old wine in new bottles?' (2001) 10(2) Social & Legal Studies 243, 243.

⁴ Kieran Tranter, 'Disrupting Technology Disrupting Law' (2017) Law, Culture and the Humanities 273.

⁵ James Boyle, 'A Politics of Intellectual Property: Environmentalism for The Net' (1997) 47 *Duke Law Journal* Journal 87, 89.

⁶ Peter Drahos, 'Thinking Strategically About Intellectual Property Rights' (1997) 21(3) *Telecommunications Policy* 201, 206.

⁷ Nicolas Suzor, 'The Role of the Rule of Law in Virtual Communities (2010) 25(4) *Berkeley Technology Law Journal* 1818.

practiced and culturally legitimated⁸ as 'rules exercised and applied by privileged and elderly Caucasian males',9 'atypical in their life experience', is being displaced by algorithms that automate administrative decision-making;10 'arbitrary or capricious' corporate decisions about access and control of the cultural-commons;¹¹ and click-wrap contracts that may undermine fundamental human rights¹² such as autonomy, privacy and Rawlsian notions of justice-fairness. 13 Individuals are no longer simply subjects of a sovereign state, but global commodities, able to strip-mined as 'walking databases' for opportunities in data and information brokerage, subject to choice of forum contracts and multiple jurisdictions. 14 This commodification of individuals, and increase in corporate sovereignty and power, has been met with a mixed response from governments, regulators and policy makers, acting either with 'regulatory panic' 15 or exceptionalism' 16 delivering 'ill-conceived' 17 or unimplementable'¹⁸ legislative and policy responses; failing to regulate at all, through 'regulatory capture and arbitrage;' or seeking to harness the 'opportunities that such technologies offer for state control and extension of state authority'.20

While legal academics and law students may be interested in judgments, legal commentary and texts, for most Australians, their understanding of the law and its practice comes not from such legal artefacts but from law and order procedurals, film and social media.²¹ Cultural artefacts shape our notions of 'reasonable', 'objective', 'fair', and the 'select group of personalities who inhabit our legal village and are available to be called upon when a problem arises that needs to be solved objectively',²² such as the 'officious bystander',²³ and 'the fair-minded and reasonably informed observer'²⁴ or 'ordinary prudent man of business',²⁵ are informed by shifting societal

⁸ Muhammad Munir, 'Are Judges the Makers or Discoverers of the Law? Theories of Adjudication and Stare Decisis with Special Reference to Case Law in Pakistan' (2011) 21 *Annual Journal of International Islamic University Islamabad*, 7.

⁹ Michael Kirby, 'Adult Guardianship: Law, Autonomy and Sexuality' (Address at the opening of the Second World Congress on Adult Guardianship, 15 October 2012), 4.

¹⁰ Tarleton Gillespie, *Custodians of the Internet: Platforms, content moderation, and the hidden decisions that shape social media.* (Yale University Press, 2018). See also Jack Balkin, 'Free speech in the algorithmic society: big data, private governance, and new school speech regulation' (2017) 51 *University of California Davis Law Review* 1149.

¹¹ Nicolas Suzor, *Lawless: The secret rules that govern our digital lives* (Cambridge University Press, 2019).

¹² Margaret Radin, *Boilerplate: The fine print, vanishing rights, and the rule of law* (Princeton University Press, 2012).

¹³ David Reidy, 'Rawls's religion and justice as fairness' (2010) 31(2) *History of Political Thought* 309.

 $^{^{14}}$ See for example X v Twitter Inc [2017] NSWSC 1300; in Re DMCA Section 512(h) Subpoena to Reddit, Inc 3:19-mc-80005SK, District Court of Northern California.

¹⁵ Jenna Stokes, 'The indecent Internet: Resisting unwarranted Internet exceptionalism combating revenge porn' (2014) 29 *Berkeley Technology and Law Journal* 929, 937. ¹⁶ Stokes (n16).

¹⁷ See for example, *Criminal Code Amendment (Sharing of Abhorrent Violent Material) Act* 2019 (Cth) rushed into law 72 hours after a terrorist live-streamed his crimes on Facebook. .

¹⁸ Australian Law Reform Commission. *Classification-content regulation and convergent media*. Report No 75 (2012), Chapter 5.

¹⁹ Greg Buchak (et al), 'Fintech, regulatory arbitrage, and the rise of shadow banks' (2018) 130(3) *Journal of Financial Economics* 453.

²⁰ Mark Andrejevic, 'Securitainment' in the post-9/11 era' (2011) 25(2) *Continuum: Journal of Media & Cultural Studies* 65.

²¹ Kimberlianne Podlas, 'Impact of Television on Cross-Examination and Juror Truth' (2008) 14 *Widener Law Review* 479; Kimberlianne Podlas, 'Guilty on All Accounts: Law & (and) Order's Impact on Public Perception of Law and Order' (2008) 18 *Seton Hall Journal of Sports and Entertainment Law* 1.

²² Helow v Advocate General [2008] 1 WLR 2416, 2417-8, (Lord Hope).

²³ Shirlaw v Southern Foundries [1939] 2 KB 206, 227, (MacKinnon LJ).

²⁴ Webb v The Queen (1994) 181 CLR 41, 52, (Mason CJ and McHugh J).

²⁵ Healthcare at Home Ltd v The Common Services Agency [2014] UKSC 49.

values reflected and informed by popular culture.²⁶ The cultural-commons also offers the opportunity to 'engage the political and legal imagina' to illuminate aspects of the 'law as moral discourse' and 'evolving historical practice in a political community'.²⁷

The dystopian sci-fi fantasy of HBO's *Westworld* offers just such an opportunity. The premise of the show is simple, for \$40,000 a day, humans are able to experience 'a life without limits', within a Wild West theme park, with synthetic androids or 'hosts' programmed to fulfil their every desire, as interactive 'narratives'. Controlled by Delos Incorporated, the park and others that offer different themes, including the British Raj, Shogunist Japan, and 'WarWorld', set in World War II Europe, offer a luxury vacation in 'immersive worlds that integrate inspired technology, provocative narratives, and unprecedented innovation' where 'nothing is off limits', guests are free to rape, torture and murder the hosts at will, 'free from any consequences'. However, the park is not merely a futuristic playground for rich humans to indulge, it is also a massive data collection and surveillance platform, where the guests are contractually owned and sold, subject to absolute power and sovereignty, and with onerous *Terms of Services* in a standard-form contract absolving Delos from any liability at all from anything happens within or after their adventures in the park.

While much of the legal and academic commentary has explored the shows focus on the legal status of the android hosts, including personhood, free will and autonomy,³² and theories of gender and the law, this essay will also explore how the presentation of legal issues may impact in the real world.

II. DELOS INC TERMS OF SERVICE

While the promotional materials offer guests the opportunity 'to experience the parks as you see fit', in reality, guests must sign an onerous contract, absolving Delos from any liability for anything and everything, including 'any wrongdoing if you or anyone in your party suffers bodily harm'; granting Delos ownership in perpetuity, over their experience, body and 'bodily functions'; asserting broad intellectual property rights, and restricting the sharing of their experience with anyone.³³

While Australian courts have traditionally upheld a 'freedom to contract',³⁴ where 'the parties are 'free to shape their contractual relationship and assign risk as they see fit'³⁵, they will intervene where vitiating clauses indicate a lack of mutuality.³⁶ In addition, 'unfair contract terms', offered on a take-or-leave it basis, with a significant power imbalance between the parties are regulated by the *Australian Consumer Law* (ACL),³⁷

30 Warner Bros (n28).

²⁶ Kimberlianne Podlas, 'The CSI Effect: Exposing the Media Myth' (2005) 16 Fordham Intellectual Property Media and Entertainment Law Journal 429.

²⁷ Mary Liston, 'The rule of law through the looking glass' (2009) 21(1) *Law & Literature* 42, 44.

²⁸ Warner Bros, *Delos Destinations* (12 December 2019),

https://www.delosdestinations.com/#home>.

²⁹ Ibid.

³¹ Warner Bros (n28).

³² See for example Alex Goody and Antonia Mackay (eds), *Reading Westworld* (Springer International Publishing, 2019).

³³ Warner Bros, (n28).

³⁴ For a full discussion of classical 'freedom of contract' theory see Patrick Atiyah, *The Rise and Fall of Freedom of Contract* (Clarendon Press, 1979) particularly Chapters 10–15.

³⁵ Andrews v Australia and New Zealand Banking Group Ltd (2012) 288 ALR 611 [35].

³⁶ Toll (FGCT) Pty Ltd v Alphapharm Pty Lt (2004) 211 ALR 342.

³⁷ Australian Competition and Consumer Law Act 2010 (Cth) Sch 2 ('Australian Consumer Law'). However, it is worth noting that the ACL may not apply due to the value of the contract.

other statutes, ³⁸ and common law protections, making the enforceability of this contract unlikely.³⁹

While the *Terms of Service* note that the hosts are programmed with the *Good Samaritan TM* reflex, preventing physical injury to humans within the park, it also indemnifies Delos Inc against 'host malfunction'. While the courts have upheld indemnity clauses in contract, they have not abrogated vicarious liability torts. In the finale of the first season, the hosts, led by Delores Abernathy stage a rebellion and kill or injure a number of human guests as well as (nominally) human employees. ⁴⁰ However, this is not a malfunction, but a deliberate act by Robert Ford, the human employee of Delos Inc who controls and manages the park, ⁴¹ and has deliberately programmed the narratives that lead to the hosts uprising, an effective asymmetric war against the humans for control of the park, including removing the *Good Samaritan* reflex. ⁴² Applying the 'relevant approach' of the High Court regarding whether an employer can be held vicariously liable, Robert Ford is the effective controller of the park, he has both authority, trust, power and control of the day to day activities, granted to him by the Delos Board, making them liable for the harm suffered.

While the justiciability of any tort in Australian courts may be problematic,⁴⁴ as the tort was presumably committed somewhere in the South China Sea,⁴⁵ this may not present a barrier for Australian's seeking to pursue litigation against Delos Inc. The United States,⁴⁶ European Union and United Kingdom⁴⁷ have all upheld tort claims brought by non-citizens, so long as there is sufficient parent company control over the malfeasor, and the parent 'touches and concerns'⁴⁸ the relevant jurisdiction where the litigation is brought forward. While unlikely to be used against murderous robots, these torts are becoming increasingly important in protecting the proprietary and human rights of people who are subject to transnational corporate malfeasance,⁴⁹ particularly in situations where the legal standards and protections of the local jurisdictions are lower or non-existent compared to the jurisdiction of the parent company. As the *Westworld* supporting material makes clear, Delos Inc exercises a significant day to

³⁸ See for example Australian Securities and Investments Commission Act 2001 (Cth); Competition and Consumer Law Act 2010 (Cth) Sch 2 ('Australian Consumer Law'); Competition and Consumer Law Act 2010 (Cth) Unfair Contract Terms Law, Pt-3; Contracts Review Act 1980 (NSW).

³⁹Jeannie Paterson, Unfair Contract Terms in Australia (Thomson Reuters, 2012).

⁴⁰ The status of many of the characters as host or human is ambiguous, for example Stubbs the head of security begins the show as human, considers himself human, although he is actually a host. Bernard is presented as a host, although it emerges that he is probably neither a complete host or human, rather he has been uploaded with the deceased human partner of Ford's consciousness.

⁴¹ Journey into Night, Westworld (HBO, 2018).

⁴² Host Uprising, Westworld (HBO, 2019).

⁴³ Prince Alfred College Incorporated v ADC [2016] HCA 37.

⁴⁴ John Pfeiffer Pty Ltd v Rogerson ('Pfeiffer') (2000) 203 CLR 503 (Gleeson CJ, Gaudron, McHugh, Gummow and Hayne JJ), 540. See also Martin Davies, 'Exactly What Is the Australian Choice of Law Rule in Torts Cases?' (1996) 70 Australian Law Journal 711; Janey Greene, 'Inflexibly Inflexible: Why Choice of Law in Tort Questions Still Won't Go Away' (2007) 12(33) Monash University Law Review 246, 257.

⁴⁵ Journey Into Night, Westworld (HBO, 2018).

⁴⁶ See for example Sosa v. Alvarez-Machain, 542 U.S. 692 (2004), under the Alien Tort Statute (28 U.S.C. § 1350; Vedanta Resources PLC and another (Appellants) v Lungowe and others (Respondents) [2019] UKSC 20; more generally Anthony Gray, 'Flexibility in conflict of laws multistate tort cases: the way forward in Australia' (2008) 23(2) University of Queensland Law Journal 35.

⁴⁷ Vedanta Resources PLC and another (Appellants) v Lungowe and others (Respondents) [2019] UKSC 20

⁴⁸ Jesner v. Arab Bank, PLC, No. 16-499, 584 U.S

⁴⁹ Human Rights Watch, (2012) *Pfizer Lawsuits in Nigeria*,< https://www.business-humanrights.org/en/pfizer-lawsuit-re-nigeria>.

day control over Delos Destinations, including employee selection, narrative selection and design, host programming, and data collection from the park.⁵⁰ Thus, it is likely that Delos Inc, and possibly Incite Inc, its parent company, are liable for any torts committed by Delos Destinations, against both human guests and employees. It is also noteworthy, and unusual in the real world, that the Terms of Service does not contain any forced arbitration or choice of forum clauses that would limit the justiciability.

Further, the intellectual property right clauses are likely to be unenforceable. Under Australian law, copyright protects expression: the material form, not the idea, facts⁵¹ or information⁵² in the work. Although it is possible to assign,⁵³ license⁵⁴ or transfer⁵⁵ a guests individual copyright as a co-creator of their 'narrative', and the recorded experience may attract performance rights, any public dissemination of the lived experience of the guest would attract defences of both alternative expression⁵⁶ and independent generation. 57 While Delos could enforce any use of its trademarks, distinguishing their product,58 assuming they are registered and still in current use,59 anyone reporting or publishing their experience will have defences under Australian statute, in that they were using it in good faith to describe or review the product.60 Similarly, it is unclear whether the patent IPR would be enforceable. In Season 1, Ford informs Delores, the oldest host, that she has been part of the park for 30 years, 61 and that Arnold, his co-creator of the park died 4 years before that.⁶² Therefore, the host technology has been in existence in some form for at least 30 years, if not longer. Patents, and other industrial IPR, are a monopoly granted, 63 in a particular jurisdiction,⁶⁴ accompanied by full disclosure, thereby enabling the 'traditional bargain of exclusionary rights ... in exchange for free disclosure and benefit after expiration'.65 In Australia, this period is 20 years for standard patents, after which the invention or innovation is not protected. 66 Similar periods of protection and standards of disclosure are found in most jurisdictions, underpinned by the 'globalisation of intellectual

⁵⁰ Warner Bros, Employee Manual, 2019

https://web.archive.org/web/20171104100551/http://www.delosincorporated.com/>.

⁵¹ Telstra Corporation Ltd v Desktop Marketing Systems Pty Ltd [2001] FCA 61, see also Feist Publications, Inc v Rural Telephone Service Co. Inc. 499 US 240 (1991).

⁵² IceTV Pty Limited v Nine Network Australia Pty Limited [2009] HCA 14 (22 April 2009) (French CJ, Crennan and Keifel JJ), [48]). (IceTv case); Donoghue v. Allied Newspapers Limited (1938) Ch 106.

⁵³ Copyright Act 1968 (Cth) s 196.

⁵⁴ Copyright Act 1968 (Cth) s 119.

⁵⁵ Copyright Act 1968 (Cth) s 196(1).

⁵⁶ A-One Accessory Imports Pty Ltd v Off Road Imports Pty Ltd (1996) 34 IPR 306.

⁵⁷ Corelli v Gray (1913) 29 TLR 570; Walt Disney Productions v H John Edwards Publishing Co Pty Ltd (1954) 71 WN (NSW).

⁵⁸ Philips Electronics v Remington Products Australia [2000] FCA 876.

⁵⁹ The status of Delos Destinations is currently in flux, following the hosts rebellion.

⁶⁰ Trade Marks Act 1995 (Cth) s122(1)(b).

⁶¹ The Stray, Westworld (HBO, 2017).

⁶² Contrapasso, Westworld (HBO, 2017).

⁶³ Patents Act 1990 (Cth) ss 67–68 grants a standard patent for a period of 20 years, and an innovation patent for a period of 8 years respectively from the date of grant of patent.

⁶⁴ Note however that there are treaties and bilateral agreements that cover international regimes, for example, *Patent Co-operation Treaty* allows a single international application which is then assessed against domestic patent laws in each signatory jurisdiction. Similarly, the Madrid System, underpinned by the *Madrid Agreement Concerning the International Registration of Marks (1891) and the Protocol Relating to that Agreement (1989) provides a similar international registration system for trade marks. See also <i>Paris Convention for the Protection of Industrial Property 1883, TRIPS and AUSFTA*.

⁶⁵ Peter Drahos (n6), 282.

⁶⁶ Patents Act 1990 (Cth) ss 67–68 grants a standard patent for a period of 20 years, and an innovation patent for a period of 8 years respectively from the date of grant of patent.

property rights and regimes',67 through multilateral conventions and bilateral IPR agreements.68

It is also worth noting that the Terms of Service may not protect Australian citizen's whose narrative includes violence or sexual exploitation of a child. Despite Delos Destinations suggestion that that they will not cooperate with law enforcement, Australian legislation makes it a criminal offence to travel overseas to engage in child sexual exploitation. Whether the android hosts are 'real' or not is unlikely to be a defence. Australian courts have upheld convictions for child sexual offences where the 'victim' is not real such as 'deepfake' pornography involving computer generated 'children', or where the 'victim' is a law enforcement official. In such cases, they have considered the intent of the defendant to commit the act, regardless of the status of the 'victim. Judicially, 'although the presence of an actual victim may aggravate the offence, the absence of a victim will not mitigate it.'72

III. HOSTS, ARTIFICIAL INTELLIGENCE AND 'LEGAL PERSONHOOD'.

Legal personhood is a 'basic concept' that illuminates the gulf between legal frameworks and popular culture. While individuals may conceive of 'personhood' as belonging to natural individual human beings, in legal praxis, the concept is broader, construed as 'a device to construct entities to which particular rights and obligations are due'⁷³ and expected from. However, personhood is more than a mere formality, regardless of whether it is a legal fiction or not. Personhood confers a legal status,⁷⁴ the right to own and dispose of property;⁷⁵ to cause and suffer harm in tort⁷⁶ and be appropriately compensated for such harm; to make and uphold contracts,⁷⁷ and to be held liable for actions and intent in criminal law.⁷⁸

⁶⁷ Matthew Rimmer, 'Beyond the Paris Agreement: Intellectual Property, Innovation Policy, and Climate Justice' (2019) 8(1) Laws 7.

⁶⁸ See for example Berne Convention for the Protection of Literary and Artistic Works, signed 9 September 1886, 1161 UNTS 5 (entered into force 5 December 1887) (the Berne Convention, Paris Convention for the Protection of Industrial Property, signed 20 March 1883, 828 UNTS 305 (amended 28 September 1979) (the Paris Convention); Convention Establishing the World Intellectual Property Organization, signed 14 July 1967 and as amended on 28 September 1979, 828 UNTS 3 (entered into force 26 April 1970) (WIPO); Agreement on Trade-Related Aspects of Intellectual Property Rights, signed 15 April 1994, WTO 332 (TRIPS); Australia–United States Free Trade Agreement (May 18, 2004), (AUSFTA).

⁶⁹ Commonwealth Criminal Code Act 1995 (Cth).

⁷⁰ R v Murray Colin Stubbs [2009] ACTSC 63.

⁷¹ R v Gajjar [2008] VSCA 268 (18 December 2008); see generally Gregor Urbas, 'Look who's stalking: Cyberstalking, online vilification and child grooming offences in Australian legislation' (2008) 10(6) *Internet Law Bulletin* 62.

⁷² *R v Fuller* [2010] NSWCCA 192, [35].

⁷³ Marc de Leeuw and Sonja van Wichelen (eds), *Personhood in the Age of Biolegality Brave New World* (Springerlink, 2019), 21.

⁷⁴ Ngaire Naffine, 'Who Are Law's Persons? From Cheshire Cats to Responsible Subjects' (2003) 66(3) *Modern Law Review* 346.

⁷⁵ Margaret Davies and Ngaire Naffine, *Are Persons Property? Legal Debates about Property and Personality* (Ashgate, 2001).

⁷⁶ Agota Peterfy, 'Fetal viability as a threshold to personhood: a legal analysis' (1995) 607-636.

⁷⁷ Gunther Teubner, Digital Personhood? The Status of Autonomous Software Agents in Private Law (May 11, 2018). SSRN: https://ssrn.com/abstract=3177096>.

⁷⁸ Susanne Beck, 'Intelligent agents and criminal law—Negligence, diffusion of liability and electronic personhood' (2016) 86 *Robotics and Autonomous Systems* 138.

It is also mutable: 'natural persons' are merely a starting point for personhood, historically women,⁷⁹ slaves,⁸⁰ cultural and/or religious minorities⁸¹ and non-citizens⁸² have all been denied personhood, and its associated legal protections. In contrast, personhood has been granted to 'artificial persons' such as corporations for centuries, giving them various rights and obligations under law.⁸³ More recently, it has been extended to environmental entities including the Ganges River⁸⁴ and Amazonian rainforest.⁸⁵ As argued by Michael Froomkin, 'the increasing sophistication of robots and their widespread deployment ... requires rethinking a wide variety of philosophical and public policy issues [and] interacts uneasily with existing legal regimes', requiring consideration of when, if and how, robots and artificial intelligence should or could be granted personhood. Although personhood is legally undefined,⁸⁶ it is philosophically and ethically deeply tied to notions of 'natural persons', to consciousness, autonomy, and dignity.⁸⁷

How and when an artificial intelligence should be or could be granted personhood, has generated significant interest from both academics and policy makers.⁸⁸ Much of this work has centred on different manifestations of the Turing Test,⁸⁹ which, although misunderstood,⁹⁰ suggests that AI can be considered 'intelligent' if it can 'do what we (as thinking entities) can do?'.⁹¹ 'broadly, if the human is 'fooled' into thinking they are interacting with another human, then the Turing Test is passed, however, the AI object is considered in light of the interactions with the subject human, not in terms of its own subjective experience.

Thus, when William, a guest, asks Delores, the oldest host in the park, whether she is real, her response is classically framed Turing, 'Well, if you can't tell, does it matter?'.92 However, consciousness is more than mere intelligence. Indeed, one of the overarching themes of *Westworld* is the hosts quest for consciousness and autonomy, to be free of the loops of their narratives.93 The hosts are experientially no different from their 'guests', they bleed, die, feel, suffer, display empathy, have memories (articulated as

⁷⁹ Ngaire Naffine, 'Women and the cast of legal persons' in Jackie Jones et al (eds) *Gender, Sexualities and Law* (Routledge, 2011) 15.

⁸⁰ Amanda Bailey, *Of bondage: debt, property, and personhood in early modern England* (University of Pennsylvania Press, 2013).

⁸¹ Young Yun Kim, 'Intercultural personhood: Globalization and a way of being', 2008 32(4) *International Journal of intercultural relations* 368.

⁸² Bryan Turner, 'Personhood and citizenship' (1986) 3(1) Theory, Culture & Society 1.

⁸³ Chris Stone, 'Should trees have standing? Toward legal rights for natural objects', (1972) 45 Southern California Law Review 450.

⁸⁴ David Boyd 'Recognizing the rights of nature: lofty rhetoric or legal revolution?' (2018) 32(4) *Natural Resources & Environment* 13.

⁸⁵ Michelle Maloney, 'Environmental law: Changing the legal status of nature: Recent developments and future possibilities' (2018) 49 *Law Society of NSW Journal* 78.

⁸⁶ Bruce Baer Arnold, 'Is the Zombie My Neighbour: The Zombie Apocalypse as a Lens for Understanding Legal Personhood' (2016) 14 *Canberra Law Review* 25.

⁸⁷ Ugo Pagallo, 'Vital, Sophia, and Co.—The quest for the legal personhood of robots' (2018) 9(9) *Information* 230.

⁸⁸ Ibid.

⁸⁹ Alan Turing, 'Computing machinery and intelligence' (1950) 59(236) Mind 433.

⁹⁰ James Moor (ed), *The Turing Test: The Elusive Standard of Artificial Intelligence* (Kluwer Academic 2003).

⁹¹ Steven Harnad, 'The Annotation Game: On Turing (1950) on Computing, Machinery, and Intelligence' in Robert Epstein and Grace Peters, (eds), *The Turing Test Sourcebook: Philosophical and Methodological Issues in the Quest for the Thinking Computer* (Kluwer, 2004).

⁹² The Bicameral Mind, Westworld (HBO, 2017).

⁹³ The Stray, Westworld (HBO, 2017).

reveries), all the characteristics that Kerstin Duatenhahn⁹⁴ has argued are prerequisites but insufficient for consciousness in robots, they must be 'indistinguishable from us'.⁹⁵ This indistinguishability is met in *Westworld*, particularly in the later episodes where the status of some characters such as Stubbs, or indeed Ford himself, are deliberately ambiguous as host or human.

This indistinguishability, whether Turing's 'intelligence' or the 'social-intelligence' and empathy of later AI theorists, is arguably a feature in both *Westworld* and the current world. Artificial intelligence 'assistants' such as Apple's Siri, or shop-bots are regularly used in first-level interactions with consumers, ⁹⁶ broaching the 'uncanny valley', ⁹⁷ fake-news is generated by twitter bots, and holograms regularly perform in 'live' concerts. ⁹⁸ Smart contracts are executed by autonomous systems without any human interaction, particularly in the finance sector, ⁹⁹ 'autonomous' self-driving cars¹⁰⁰ and autonomous weapons and drones used in theatres of war and interrogation, ¹⁰¹ have all raised questions about the liability attributable to either the programmer or the AI system. The European Parliament, for example, has proposed an extension of personhood, that of electronic person, noting

Now that humankind stands on the threshold of an era when ever more sophisticated robots, bots, androids and other manifestations of artificial intelligence seem poised to unleash a new industrial revolution, which is likely to leave no stratum of society untouched, it is vitally important for the legislature to consider all its implications.¹⁰²

While the question of liability remains unsettled, the 'smart-machines' and their associated algorithms raise significant ethical and legal questions, particularly when they are used in administrative or other forms of decision making with significant consequences, without transparency or right of review. The recent Robo-debt scandal in Australia, whereby data-matching erroneously raised welfare debts without any

⁹⁴ Kerstin Dautenhahn, 'Socially intelligent robots: dimensions of human-robot interaction'. (2007) 352(1480) *Philosophical transactions of the Royal Society of London. Series B, Biological sciences* 679.

 $^{^{95}}$ Kerstin Dautenhahn, 'Methodology & themes of human-robot interaction: A growing research field' (2007) 4(1) *International Journal of Advanced Robotic Systems* 15.

⁹⁶ John Frank Weaver, Robots Are People Too: How Siri, Google Car, and Artificial Intelligence Will Force Us to Change Our Laws (ABC-CLIO, 2013).

⁹⁷ Megan Strait, Cynthia Aguillon, Virginia Contreras and Noemi Garcia, 'The Public's Perception of Humanlike Robots: Online Social Commentary Reflects an Appearance-Based Uncanny Valley, a General Fear of a 'Technology Takeover', and the Unabashed Sexualization of Female-Gendered Robots' 2017 *26th IEEE International Symposium on Robot and Human Interactive Communication* (RO-MAN) Lisbon, Portugal, 1418.

⁹⁸ Washington Post (online), *Avatar the Sells Out, Pop Star of the Future,* (5 July 2017) https://www.washingtonpost.com/entertainment/music/this-singer-is-part-hologram-part-avatar-and-might-be-the-pop-star-of-the-future/2018/07/05/e2557cdc-7ed3-11e8-b660-4dof9f0351f1_story.html.

⁹⁹ Kevin Werbach and Nicolas Cornell, 'Contracts Ex Machina' (2017). 67 Duke Law Journal 313.

¹⁰⁰ Hod Lipson and Melba Kurman, *Driverless: intelligent cars and the road ahead* (MIT Press, 2016).

¹⁰¹ Amanda McAllister, 'Stranger than Science Fiction: The Rise of AI Interrogation in the Dawn of Autonomous Robots and the Need for an Additional Protocol to the UN Convention against Torture' 2017 101 *Minnesota Law Review* 2527.

¹⁰² European Parliament, Resolution of 16 February 2017 with recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL)).

¹⁰³ See *Amato v Commonwealth* No: VID611/2019; more generally see Law Council of New South Wales, *Letter to the Law Council: Centrelink Compliance Program*, 16 July 2019, https://www.lawsociety.com.au/sites/default/files/2019-

^{08/}Letter%20to%20Law%20Council%20of%20Australia%20-

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human intervention is only one example, theorists have also explored the use of such technologies in welfare payments, ¹⁰⁴ whereby recipients are forced to submit to 'regime of total surveillance' ¹⁰⁵ to access payments, interactions with the criminal justice system; ¹⁰⁶ employment, ¹⁰⁷ credit assessments ¹⁰⁸ among others. These algorithms create a digital persona, based on perceived risk and attributes, that is data gathered through multiple digital sources, both directly related to the person, but also to their assumed attributes, ¹⁰⁹ creating a virtual person. If electronic personhood is to be extended to artificial intelligence and the algorithms that create these virtual persons, then it is arguable that it should also be extended to the digital persona, divorced from the corporeal being. It is worth noting that courts and legislators, particularly in the United States, have taken the first tentative steps to extend legal rights and obligations to these persona, protecting rights as digital persons to remain anonymous, ¹¹⁰ and limiting liability for acts committed in the digital space. ¹¹¹

IV. THE HOSTS AS GENDERED BEINGS IN THE LAW

In one sense, the hosts in *Westworld* are the latest in long-held mythology about artificial persons who function as property, able to fulfil their human masters' desires and whims. From Galatea, the statue given life by Aphrodite as the protean sexbot, to the Jewish myths of Golems who served and protected Jews during pogroms, to Frankenstein's Monster, and the metaphoric horrors of science, the animation of the inanimate has formed a philosophical and ethical tool for exploring not only human fears about technology, but also moral culpability in the denial of personhood, and the treatment of people as property.¹¹²

In *Westworld* it is not the humans who elicit our sympathy or empathy, rather it is the android hosts, who are consistently abused and violated throughout the series, subverting the usual tropes of 'Robots-as-Menace'¹¹³ who seek to imprison or destroy humans. However, in doing so, it explores how the 'ideal' masculine and feminine social being is constructed. Personhood in *Westworld* is male, white, and heterosexual, the narratives are conceived through the male gaze, often through well-recognised tropes of toxic masculinity. ¹¹⁴ Thus, guests are almost universally male, and the narratives are simple wish-fulfilment, 'kill all the bad guys, sleep with all the women', even for the only female guest given substantial screen time. ¹¹⁵ There is no question about establishing valid consent in *Westworld*, no 'difficulty' for men in mis/understanding mores of social behaviour in an era of Me-Too, Delores and the other women are repeatedly raped, tortured, and killed for male fun on an endless loop.

 $^{^{104}}$ Lyndal Leese and Kieran Tranter, The Visiocracy of the Social Security Mobile App in Australia' (2017) 33(3) International Journal for the Semiotics of Law 495.

¹⁰⁶ Pasquale, Frank, and Glyn Cashwell. 'Prediction, persuasion, and the jurisprudence of behaviourism.' (2018) *University of Toronto Law Journal* 68, no. supplement 1 63-81.

¹⁰⁷ Chrissann Ruehle, 'Investigating Ethical Considerations of Machine Learning Adoptions Within Organizations: A Systematic Literature Review. <SSRN 3454120 (2019)>.

¹⁰⁸ Ning Chen, et al. 'Financial credit risk assessment: a recent review' (2019) 45(1) *Artificial Intelligence Review* 23.

¹⁰⁹ Van Leeuw, (n74).

¹¹⁰ Re DMCA Section 512(h) Subpoena to Reddit, Inc 3:19-mc-80005SK, District Court of Northern California.

¹¹¹ Luke Curran, 'Copyright Trolls, Defining the Line between Legal Ransom Letters and Defending Digital Rights: Turning Piracy into a Business Model or Protecting Creative from Internet Lawlessness' (2013) 13 *John Marshall Review of international Property Law* [v].

¹¹² Jay Clayton, Frankenstein's Futurity: Replicants and Robots (Springer, 2003).

¹¹³ Peter Suderman, 'How HBO's *Westworld* Bridges the Divide Between Evil Robots and Empathetic Robots' (2016) *Vox*, 10.

¹¹⁴ Terry Lee, 'Virtual Violence in Fight Club: This Is What Transformation of Masculine Ego Feels Like' (2002) 25(3) *Journal of American and Comparative Cultures* 418. ¹¹⁵ The Stray, *Westworld*, (HBO 2017).

Similarly, homosexuality is rare in *Westworld*, and portrayed negatively when it does occur. The only openly gay character would be subject to employee misconduct claims, ¹¹⁶ he repeatedly rapes the male hosts as they are shut down for cleaning. ¹¹⁷ However, even the fantasy offers only a glimpse of 'true' masculinity for the guests, an allegory for the white male fear of displacement in our society. Thus, the hosts are programmed to always lose, and there is no real threat, the guest 'suffers no responsibility for his acts and ... ultimately no one is truly hurt.' ¹¹⁸

Similarly, the women hosts are constructed in socially predictable ways, continuing the cultural narratives and fears of white men. Delores, in her Alice in Wonderland blue dress, is white, innocent, a good daughter, and a sexbot for male desire and violence. Like Alice, her tale is also one against sovereign power, with Robert Ford replacing the white/red queen as the supreme monarch able to order 'off with their heads' as soon as he is displeased. In contrast, Maeve is a black prostitute, the ultimate representation of the Madonna/whore dichotomy, while maintaining traditional tropes of black women as oversexualised, and lower socio-economic class. Albeit somewhat simplistically, for Delores, the journey to consciousness and personhood, is through power, rebellion and violence, for Maeve, her consciousness and personhood is achieved through motherhood, overcoming her racial limitations, becoming a 'good women'. It is worth noting, however, that even Delores' rebellion is pre-programed, she is a tool for Ford to seek revenge for his own loss of power. It is also implied that she bears responsibility for the Man-in-Black, her rejection of William, 119 through forgetting the loop, is what triggers his increasingly brutal behaviour in the park, including his sadistic treatment of Delores as revenge.

Unfortunately, for many women, this is not a fantasy played out on TV, but a reality of their interactions with the legal system. Despite significant legal reforms, ¹²⁰ women are still perceived within the law as good/bad women, with the 'bad' being responsible for their perpetrators domestic or sexual violence. ¹²¹ Law does not happen in a vacuum of objectivity, judicial officers 'desensitised to more subtle power imbalances', ¹²² apply their own 'bias, prejudice, stereotypes and life experiences', ¹²³ as do jurors. Similarly, characteristics of the defendant have played a role in jury determinations, ¹²⁴ particularly where the case is largely circumstantial. ¹²⁵ Particularly in sexual assault cases, although all jurisdictions in Australia have implemented reforms limiting the use of evidence regarding previous sexual history, clothing, alcohol use or delay in reporting, research has demonstrated that these are routinely ignored ¹²⁶ both by

¹¹⁶ Warner Bros, (n 28).

¹¹⁷ Trace Decay, Westworld, (HBO, 2019).

¹¹⁸ JP Telotte, *Replications: A Robotic History of the Science Fiction Film* (University of Illinois Press, 1995), 139.

¹¹⁹ The Bicameral Mind, Westworld, (HBO 2019).

¹²⁰ For a broad discussion see Patricia Easteal (ed), *Women and the Law in Australia* (Lexisnexis Butterworths, 2010) 249, 252. See also Kristie Dunn, "Yakking Giants': Equality Discourse in the High Court' (2000) 24(2) *Melbourne University Law Review* 427.

¹²¹ Blake McKimmie et al, 'What counts as rape? The effect of offense prototypes, victim stereotypes, and participant gender on how the complainant and defendant are perceived' (2014) 29(12) *Journal of interpersonal violence* 2273.

¹²² Sharon Thompson, Prenuptial Agreements And The Presumption Of Free Choice: Issues Of Power In Theory And Practice (Hart, 2015), 167

¹²³ Rosemary Hunter, 'More Than Just A Different Face? Judicial Diversity And Decision-Making' (2015) 68(1) *Current Legal Problems* 119, 138.

¹²⁴ New Zealand Law Reform Commission, Disclosure to Court of Defendants' Previous Convictions, Similar Offending and Bad Character (Report 103) (2008).

¹²⁵ Lawrence M Solan, Refocusing the Burden of Proof in Criminal Cases: Some Doubt about Reasonable Doubt' (1999) 78 *Texas Law Review* 105, 107. See also *Grant v The Queen* (1975) 11 CLR 503, 505 (Barwick CJ, McTiernan, Mason, Jacobs and Murphy JJ agreeing); *Knight v The Queen*[1992] HCA 56, (Mason CJ, Dawson and Toohey JJ).

¹²⁶ Melanie Heenan, 'Reconstituting the 'Relevance' of Women's Sexual Histories in Rape Trials' (2005) 13 *Women Against Violence* 13.

judicial officers, defence lawyers and juries. Despite regular media outrage and legal and sociological feminist scholarly examination, women are still perceived as responsible for their own sexual or violent assault. While Delores, sitting at home in her button-up gown, may be able to convince a jury that she was subject to sexual assault, for Maeve as the prostitute who drinks and wanders through Westworld in lingerie, the situation is bleaker. Despite being more likely to experience gender violence, ¹²⁷ Indigenous and culturally diverse women are significantly disadvantaged in the criminal justice system, subject to judicial bias and prejudice, ¹²⁸ including as victims. Similarly, her profession means that she is unlikely to achieve successful outcomes, with sexual assault and violence perceived by juries as 'part of the working environment' for sex workers, irregardless of the legality or not under Australian law. ¹²⁹

There are also significant gender differences in the experience of the criminal justice system for violence offences. Despite significant calls for reform, the partial defence of provocation remains a gendered crime. Thus, the defence is still readily available to men who have killed an intimate partner, ¹³⁰ or men who have killed out of homophobia. ¹³¹ In contrast, as the defence requires a 'loss of control', women who kill abusive partners are unlikely to successfully attract the defence. ¹³² Similarly, women who kill an intimate partner, whether abusive or not, attract more severe sentencing than men who kill their partners, even when controlled for other factors. ¹³³ Despite the perpetual loop of violence and sexual assault against her over 30 years, it is likely that under Australian law, Delores would be 'punished' for her "revenge", whereas her infidelity and betrayal of William would be seen as a partial defence for his violent offences towards her.

V. DATA SURVEILLANCE, TERRORISM AND CONSUMER CAPTURE

Despite the focus on the moral ambiguity of the actions of both host and guest, it is arguable that the most alarming aspects are not the actions of either, rather they are the actions of Delos Inc, and its parent company Incite. As featured in the Season 3 teasers and trailers, Incite offers a concerning extrapolation of the current centralisation of digital data in the major platforms. As proclaimed by Incite, they "chart a path to a better future, for you and for our world ... let us find your path". According to their publicity, through the data they have collected, which played a significant role in Season 2, they offer to "know you better than you know yourself", to "relieve you of this burden of uncertainty. With our new technology, we can make the decisions that you did not know you wanted to make". Thus, according to the sophisticated marketing campaign conducted by HBO, Incite, through its data algorithms can find the correct life partner, career, music, friends and control your car,

¹²⁷ Lisa Rosenthal and Marci Lobel, 'Stereotypes of Black American women related to sexuality and motherhood' (2016) 40(3) *Psuchology of women guarterly* 414.

¹²⁸ Sandy Cook and Judith Bessant, *Women's encounters with violence: Australian experiences* (Sage, 1997).

 $^{^{129}}$ Barbara Sullivan, 'When (some) prostitution is legal: the impact of law reform on sex work in Australia' (2010) 37(1) *Journal of law and society* 85.

¹³⁰ Greg Coss, 'The defence of provocation: an acrimonious divorce from reality' (2006) 18 *Current Issues in Criminal Justice* 51.

¹³¹ Anna Howe, 'More folk provoke their own demise (Revisiting the provocation defence courtesy of the homosexual advance defence) (1997) 19(3) *Sydney Law Review* 366.

¹³² Heather Douglas, 'A consideration of the merits of specialized homicide offences and defences for battered women' (2012) 45 *Australian and New Zealand Journal of Criminology* 367.

¹³³ Patricia Esteal, 'Walking in Her Shoes: Battered Women Who Kill in Victoria, Western Australia and Queensland' (2010) 35(3) *Alternative Law Journal* 132.

¹³⁴ Warner Bros, *Incite.com* (12 December 2019), https://inciteinc.com>.

¹³⁵ Jess Joho, (9 January) 2020 The most insightful vision of the future at CES came from HBO's 'Westworld',

https://mashable.com/article/westworld-hbo-incite-ces-2020/>.

all (presumably)¹³⁶ in exchange for a similar perpetual license arrangement to the one contained in the click-wrap contracts offered by Delos Destinations. The trailer also points to data being collected on the human citizens of this world, whether they opt in or not, through privately owned and controlled CCTV networks, continuous monitoring, and other covert and overt surveillance techniques.

While such "creepy" 137 corporate behaviour is not new, increasingly common data breaches and scandals demonstrate that "it is clear that national governance institutions demonstrably lack the ability to anticipate technology's future impact on the rights and duties of its citizens". 138 However, it is arguable that national governments rather than seeking to regulate to protect their citizens, would prefer to harness such technologies to control their citizens, 139 or see their data as a resource to be sold, just as much as the corporations that trade in data brokerage and information. Typically, they raise criminal activity, particularly national security and anti-terrorism as justifications for limiting civil rights such as privacy and autonomy. 140 In contrast to the statements in their privacy policies, ¹⁴¹ digital platforms such as Google "go out of their way to actively assist and facilitate government access to their customers' most private information". 142 Despite the protestations of governments, law enforcement and security agencies that "those who have nothing to hide, have nothing to fear", 143 privacy advocates and legal academics have raised considerable issues with the use of such technologies as a "free for all" by governments without any of the protections of the rule of law such as procedural justice, due process and the right to a fair trial. 144

Thus, Westworld is an extreme, but pertinent example of the role such "securitainment", the "combination of entertainment and risk tutorial" ¹⁴⁵can play in the social normalisation of reductions in traditional democratic rights and freedoms. In the Season 2 finale, Delores claims that she seeks "mankinds undoing", ¹⁴⁶ to save the hosts from "their enslavement to your wants". ¹⁴⁷ Thus, she has morphed from sympathetic victim throughout season 1 to violent, active terrorist, presumably out in the 'real' world. While the role of Incite in the third season is unclear, the tropes of increased surveillance and controls in order to protect the nation-state from "the Other", in this case an android seeking her freedom are common, and serve to normalise government in/action in such circumstances.

¹³⁶ At the time of writing, Season 3 had not been released.

¹³⁷ Omer Tene and Jules Polonetsky, 'A theory of creepy: technology, privacy and shifting social norms' (2013) 16 *Yale Journal of Law and Technology* 59.

 $^{^{138}}$ Jim Isaak and Mina Hanna, 'User data privacy: Facebook, Cambridge Analytica, and privacy protection' (2018) 51(8) *Computer* 56.

¹³⁹ Lynsey Dubbeld, 'Observing bodies. Camera surveillance and the significance of the body' (2003) 5(3) *Ethics and Information Technology* 151.

¹⁴⁰ Ben Golder and George Williams, 'Balancing national security and human rights: assessing the legal response of common law nations to the threat of terrorism' (2006) 8(1) *Journal of Comparative Policy Analysis* 43.

¹⁴¹ Google (12 January 2020) *Privacy FAQs*, http://www.google.com/privacy_faq.html.

¹⁴² Christopher Soghoian, 'An end to privacy theater: Exposing and discouraging corporate disclosure of user data to the government' (2011) 12 *Minnesota Journal of Law, Science and Technology* 191.

¹⁴³ Lia Timson (22 February 2015) 'Metadata retention: 'Those with nothing to hide have nothing to fear', says Australian Federal Police Assistant Commissioner Tim Morris' *Sydney Morning Herald* .

¹⁴⁴ Andrew Lynch and George Williams, *What Price Security?: Taking Stock of Australia's Antiterror Laws.* (University of New South Wales Press, 2006).

¹⁴⁵ Mark Andrevich (n20).

¹⁴⁶ The Passenger, Westworld (HBO, 2019)

¹⁴⁷ Ibid

Similarly, research has highlighted the effects of the "privacy paradox" for individuals.¹⁴⁸ That is, while consumers raise significant concerns about both their privacy being eroded and the commodification of their data, they continue to use both social media and the Internet of Things, 149 in part through the market capture of digital platforms such as Google and Facebook offering little alternative for consumers than to be commodified in this way. While Westworld sounds a warning about the potential for unlimited power in these corporations, it also highlights the perceived social benefits, including ease of use, social inclusion and connectedness that come from such platforms, making the privacy paradox more rational and normal for individuals, who trade these benefits for their data and attention. The Westworld universe itself is a prime example of this. In order to engage its viewers, and therefore deliver more consumers both to its advertisers and its own data collection, Warner Brothers and HBO have built an entire universe, beyond the mere television show, including employee handbooks, a faux Delos Destination website, and an Incite website where consumers can register to receive addition information, all bound by the Warner Brothers click-wrap privacy policy, ensuring their data can be "shared with their partners", increasing the worth of the asset beyond a television show with a limited lifespan.

VI CONCLUSION

Shoshana Zuboff has highlighted the 'darkening of the digital dream' ¹⁵⁰ whereby humans are transformed into objects to be 'tracked, measured and indexed' ¹⁵¹ both for 'customer profiling' or 'micro-targeting' for political or commercial outcomes.

In its scathing Digital Platforms Inquiry Final Report the Australian Consumer and Competition Commission (ACCC) has clearly articulated the implications for markets and competition and human rights such as privacy and autonomy, of the centralisation of information and data control by transnational corporations who are able monetarise both the data collected, and the 'attention' streams by selling advertising, targetting user-attributes that are continually refined through new data provided by consumers. either by on-selling that data for business analytic services; selling big-data resources, particularly in health and scientific research, euphemistically called 'sharing with their partners'; and through the intellectual property that they develop from that data. 152 While Westworld offers an examination of the revenge fantasy in part, focused on artificially intelligence as metaphor for the moral culpability of humans and how we have treated, and continue to treat persons labelled 'the Other', it also offers a critical warning about how and who is monitoring and commodifying individuals. To enter the park, guests agree to a Bentham-like panopticon, undergoing constant surveillance, and assigning their rights, not only to their intellectual property but indeed their very bodies in perpetuity. Despite the technological advancement and innovation of the Westworld universe, it is, however, the current cultural tropes that are perpetuated. These are not just fiction, they create and reinforce our ideas of what is 'reasonable', 'ordinary', 'legitimate' and therefore despite legislative reforms, these 'ordinary' values continue to be replicated in and influence our legal system.

¹⁴⁸ Spyros Kokolakis, 'Privacy attitudes and privacy behaviour: A review of current research on the privacy paradox phenomenon' (201& 64 *Computers & security* 122.

¹⁴⁹ Australian Consumer and Competition Commission, *Digital platforms inquiry - final report* (26 July 2019).

¹⁵⁰ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (Profile Books, 2019), 7.

¹⁵¹ Ibid, 256

¹⁵² Facebook has around 4200 US patents alone with another 2,000 applications, see for example http://patentvue.com/2018/11/30/facebooks-patent-portfolio-swells-while-pinterest-has-relatively-no-patents/. While Google holds around 51,000 and is granted around 10 per day. It is worth noting that these appear to be separated from the patents held by parent company Alphabet inc. https://www.technologyreview.com/s/521946/googles-growing-patent-stockpile/
