



# GRIFFITH JOURNAL OF LAW & HUMAN DIGNITY

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Law and Human Dignity in the Technological Age

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*Law & Human Dignity in the Technological Age*

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# INFORMATION TECHNOLOGY & THE FUTURE OF LEGAL EDUCATION: A PROVOCATION

JULIAN WEBB\*

*This short paper explores, albeit in a preliminary fashion, challenges to legal education arising from the significant impact of new information and communications technologies (ICTs) on law and legal practice. It uses the pervasiveness of ICTs to reframe the question of “law and technology” from a philosophical perspective that sees information technology as an “environmental force”<sup>2</sup> that is capable of re-shaping our identity, agency, and social relations, and hence constitutes a significant means through which we make sense of the world.<sup>3</sup> The key question the paper poses thus emerges: how should we design the law curriculum when the law-technology relation is itself understood as a critical part of a continuing and profound transformation in what it means to be both a lawyer, and a human being?*

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\*Professor of Law, Director of the Legal Professions Research Network, and member of the Digital Citizens Research Network at Melbourne Law School. My thanks to a number of colleagues for comments on an earlier variant of this paper, delivered at a faculty research seminar at Melbourne in April 2018, notably to Peter Rush, who acted as discussant on that occasion, Andrew Godwin, Jeannie Paterson, and Julian Sempill. I also acknowledge the work of my collaborators on the Networked Society Institute’s ‘Regulating Automated Legal Advice Technologies’ (RALAT) project: Judith Bennett, Rachelle Bosua, Tim Miller, Adam Ladders, and Scott Chamberlain, who have helped shape my thoughts on a number of issues addressed in this paper. None of them are, of course, responsible for what follows.

<sup>2</sup> Luciano Floridi (ed), *The Onlife Manifesto. Being Human in a Hyperconnected Era* (Springer, 2015) 1; Luciano Floridi, *The 4th Revolution: How the Infosphere Is Reshaping Human Reality* (Oxford University Press, 2014).

<sup>3</sup> This contrasts with the broad but more limited, functional, orientation to technology which defines it (eg) as “any tool or technique, any product or process, any physical equipment or method of doing or making, by which human capability is extended”: Donald A Schön, *Technology and Change: The New Heraclitus* (Delacorte Press, 1967) 1.

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## I LAW &amp; INFORMATION TECHNOLOGY: MAPPING THE TERRAIN

Over the past 30-40 years, the relationship between law and technology has become a significant concern of both legal scholarship and legal practice. Digital (ICT) technologies, it is suggested, occupy a special place in this history both because of ICTs fundamental and increasing social ubiquity and because that ubiquity is translating into a deeper and wider impact on law and regulation.

Information technology *is* everywhere. Sociologists and information theorists have coined terms such as “information society” or “network society” to argue that the massive growth of information flows and technologies in late modern (developed) societies, constitutes a social transformation comparable to the shift from agrarian to industrial society.<sup>4</sup> New technologies such as Web 3.0 and the Internet of Things are constructing an environment ‘no longer confined to browsers, or even to screens... a world of multi-device, multi-channel, and multi-directional throughput of information, involving sensors and many other devices we never see’.<sup>5</sup> This deep entanglement between humans and technology is echoed in a number of more recent engagements in the sociology and philosophy of information. Castell’s description of the rise of a culture of “real virtuality”<sup>6</sup> thus offers a construction of the self that is embedded in digital networks of communication. Floridi and associates in their description and analysis of the modern condition as “onlife”<sup>7</sup>, which they define as the experience of life in which the boundaries between online and offline, between human and technology, are blurred, also seek to capture the way in which ICT (and its very taken-for-grantedness<sup>8</sup>) is normalising a state of “hyper-connectivity”.

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<sup>4</sup> See, eg, Hugh Mackay, ‘Information Society’ in George Ritzer (ed), *The Blackwell Encyclopedia of Sociology* (John Wiley & Sons, Ltd, 2007) <<http://doi.wiley.com/10.1002/9781405165518.wbeosi043>>; see also, Mireille Hildebrandt’s argument that we are currently observing, the transition from an ‘information society’ to a ‘data-driven society’, Mireille Hildebrandt, *Smart Technologies and the End(s) of Law: Novel Entanglements of Law and Technology* (Edward Elgar, 2015).

<sup>5</sup> David Kreps and Kai Kimppa, ‘Theorising Web 3.0: ICTs in a Changing Society’ (2015) 28(4) *Information Technology & People* 726, 727.

<sup>6</sup> Manuel Castells, *The Rise of the Network Society* (Wiley-Blackwell, 2<sup>nd</sup> ed, 2010) ch 5.

<sup>7</sup> Floridi (n 2).

<sup>8</sup> “The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are indistinguishable from it”, as per Mark Weiser, ‘The Computer for the 21st Century’ (1991) 265(3) *Scientific American* 94.

The implications for law are profound. As others have acknowledged, the relationship between law, regulation, technology, and society are complex,<sup>9</sup> and care needs to be taken in assuming causalities. Nonetheless, as a minimum, it seems reasonable to assert that technology creates real challenges for many areas of substantive law, for legal processes and perhaps ultimately for the concept of law itself.<sup>10</sup> Following Floridi's lead, I suggest that we should think of this transformation in terms of the emergence of a phenomenon of "onlaw", which broadly mirrors the experience of "onlife". The language of immanence or emergence here is intentional. "Onlaw" is not a wholly new form of law as such. It should not be understood either deterministically or idealistically as a move beyond "law" as we currently understand it, but as an emergent quality of the complex interplay of law and (other) technologies, arising out of local system dynamics. The language of "onlaw" invites us to engage with the functioning of law as technology and technology as law. At the heart of this interplay is the subtle question of legal form. As Lon Fuller long ago recognised, legal form is a matter of social architecture.<sup>11</sup> It is mutable, and reflects a selection from a range of alternatives for social ordering. The form also has agentic effects. Changes to the form thus create different limits and opportunities for agency.<sup>12</sup> The extent to which the agency of the form, and the form itself, are being reconstructed by ICT is thus a crucial question to ask of the modern law-technology relation. "Onlaw" merits a paper in its own right, but the following five trends are, I suggest, indicative of the kind of deep change that "onlaw" implies.

First, substantively, it is becoming difficult to identify law subjects where ICTs are *not* having at least some impact. Smart contracts, "fin tech", e-commerce regulation, data protection, and cybersecurity developments, amongst others, are front and centre of the current wave of digital transformation and are extending interest in law and digital technology well beyond the conventional silos of ICT law, intellectual property, medical

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<sup>9</sup> Lyria Bennett Moses, 'How to Think about Law, Regulation and Technology: Problems with "Technology" as a Regulatory Target' (2013) 5(1) *Law, Innovation and Technology* 1, 2.

<sup>10</sup> See, eg, Hildebrandt (n 4); Roger Brownsword, 'In the Year 2061: From Law to Technological Management' (2015) 7(1) *Law, Innovation and Technology* 1, which significantly extends his argument that technology is having disruptive effects on both the law itself and on 'legal' modes of thinking about regulation).

<sup>11</sup> See Kenneth I Winston (ed), *The Principles of Social Order: Selected Essays of Lon L. Fuller* (Hart Pub, Rev ed, 2001) 66–9.

<sup>12</sup> See Annelise Riles, 'A New Agenda for the Cultural Study of Law: Taking on the Technicalities' (2005) 53 *Buffalo Law Review* 973, 980, discussing the "agency of technocratic legal form"; see also, Kristen Rundle, *Forms Liberate: Reclaiming the Jurisprudence of Lon L Fuller* (Hart Pub, 2012) 49.

law, and biotechnology and, perhaps to a lesser extent, criminal law.<sup>13</sup> These trends, of course, are not merely reshaping the academic terrain; they are also reflected in practice as lawyers seek to reinvent themselves as experts *in* digital, for example, as professionals working with clients and other stakeholders ‘to enable the delivery of secure and compliant digital transformation solutions’.<sup>14</sup>

Secondly the rise of “legal tech” is a critical arena in which to study the impact of the interplay of law and information technology on the legal field.<sup>15</sup> If law is social architecture, then lawyers are (amongst) its architects, and have both technical and, I would suggest, ethical responsibilities for the design of law’s tools, rules and institutions.<sup>16</sup>

The term legal tech, or sometimes “law tech” is used to describe the development and use of legal practice/process-specific technologies. It can be seen as a growing sub-field of ‘legal informatics’: the study of the structure and properties of information,<sup>17</sup> and the application of technology to its organisation, storage, retrieval, and use in legal environments (including law firms, courts and law schools).<sup>18</sup> Conventionally the term has been used primarily in the context of legal practice technologies, such as document processing, e-discovery, and the development of legal information/advice tools. However, there is some suggestion in more recent thinking that the distinction between office-based legal tech and courtroom technology and online dispute resolution (“ODR”) applications is somewhat arbitrary, and this is certainly the case in terms of the underlying technologies at play.<sup>19</sup>

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<sup>13</sup> See, eg, Emilie Cloatre and Martyn Pickersgill (eds), *Knowledge, Technology, and Law* (Routledge, 2015).

<sup>14</sup> Linklaters and Microsoft, ‘Lawyers: Agents of Change in a World of Digital Transformation’ *Digital Transformation* (Webpage, April 2018) <<https://www.linklaters.com/en/insights/publications/2018/april/digital-transformation-be-the-facilitator-of-change>>.

<sup>15</sup> See, eg, Kimberly Williams et al, *The Legal Technology Guidebook* (Springer, 2017); Markus Hartung, Micha-Manuel Bues and Gernot Halbleib, *Legal Tech: Die Digitalisierung des Rechtsmarkts* (CH Beck; Vahlen, 2018).

<sup>16</sup> Though as Gillian Hadfield notes, we need also to separate our thinking about what *law* does, from the constraints of an understanding of law based on what *lawyers* currently do; Gillian K Hadfield, *Rules for a Flat World: Why Humans Invented Law and How to Reinvent It for a Complex Global Economy* (Oxford University Press, 2017) 19.

<sup>17</sup> That potentially includes not just exclusively ‘legal’ but more broadly law-related information.

<sup>18</sup> See, eg, Sanda Erdelez and Sheila O’Hare, ‘Legal Informatics: Application of Information Technology in Law’ (1997) 32 *Annual Review of Information Science and Technology* 367.

<sup>19</sup> See, eg, Markus Hartung, ‘Gedanken Zu Legal Tech Und Digitalisierung’ in Hartung et al (n 15) 5.



The impact of both general and law-specific ICTs on the practice of law, from relatively small beginnings, has grown substantially. General ICTs like word processing and email are so ubiquitous today that it is slightly shocking to look back to the early 1990s and see how much has changed.<sup>20</sup> Their ubiquity also means that it is easy to overlook their continuing effects. As Clark observes, the introduction of these tools was not merely a neutral enhancement to law firm administration, but a critical part of what has made the modern law firm possible, enabling both the more effective distribution of, and centralised control over information and communications, and the industrialisation and commodification of legal work.<sup>21</sup>

In terms of law-specific ICTs, the overall trend can be characterised in tool/process terms as an overlapping progression through three stages of evolution.<sup>22</sup> The first stage, starting in the 1980s, is represented by multiple but often discrete sets of supportive technology, such as legal information retrieval, basic document assembly, and a variety of workflow tools.<sup>23</sup> The second phase, arguably since the mid to late 90s, sees greater sophistication and interoperability in the tools entering the market, through to the emergence in the mid-2010s of increasingly “disruptive” technologies that are (just) starting to replace or at least supplement some human functions, utilising “smart” or even “intelligent” technologies.<sup>24</sup> These include artificial intelligence (AI) supported document review, research tools and legal analytics, machine learning applications in e-discovery platforms, and a growing range of automated legal information and advice technologies.<sup>25</sup>

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<sup>20</sup> One English study thus noted that in 1993, nearly one-third of sole practitioners in regional practice had no access to word processing, and less than 25% of regional practitioners surveyed made use of email as per Julian Webb, ‘Legal Research and Information Systems: The Impact of Information Retrieval Systems on Provincial Legal Practice’ (1993) 2(3) *Information & Communications Technology Law* 203, 210.

<sup>21</sup> Andrew Clark, ‘Information Technology in Legal Services’ (1992) 19(1) *Journal of Law & Society* 13, 14-15; see also David S Wall and Jennifer Johnstone, ‘The Industrialization of Legal Practice and The Rise of the New Electric Lawyer: The Impact of Information Technology upon Legal Practice in the U.K.’ (1997) 25(2) *International Journal of the Sociology of Law* 95.

<sup>22</sup> See, eg, Abdul Paliwala (ed), *A History of Legal Informatics* (Prensas Universitarias de Zaragoza, 2010); Oliver Goodenough, ‘Legal Technology 3.0’, *Huffington Post*, (online, 6 April 2015) <[https://www.huffingtonpost.com/oliver-r-goodenough/legal-technology-30\\_b\\_6603658.html](https://www.huffingtonpost.com/oliver-r-goodenough/legal-technology-30_b_6603658.html)>.

<sup>23</sup> Early texts such as Charles Christian, *Legal Practice in the Digital Age: The Quest for the Killer Legal App* (Bowerdean Pub. Co. Ltd, 1998); Philip Leith and Amanda Hoey, *The Computerised Lawyer* (2<sup>nd</sup> ed, Springer-Verlag, 1998) provide an indication of how far legal tech has progressed in the last two decades.

<sup>24</sup> It should however be noted that much of the current ‘industry’ discussion focuses on the *potential* of AI, rather than its actuality. It is difficult objectively to assess the take-up and distribution of smart technologies, and indeed, just how ‘smart’ some of the current tools are: see, eg, Judith Bennett et al, ‘Current State of Automated Legal Advice Tools’ (Networked Society Institute Discussion Paper, University of Melbourne, April 2018) 69.

<sup>25</sup> *Ibid*, for a recent attempt to map the territory.

A critical question now is whether we are on the cusp of what Goodenough calls ‘legal tech 3.0’, which is the design of intelligent platforms in which the power of computational technology will affect deep change in the practice of law.<sup>26</sup> This would, of course, also constitute a development consistent with the emergence of “onlaw”. There are a number of dimensions to this. First, legal tech 3.0 increases the potential for “decomposability”, that is, the deconstruction or unbundling of legal transactions into separate tasks, which may be processed in a variety of ways and by a variety of actors, eg, by out-sourcing or off-shoring, or by automation itself. Much of the value of legal tech as a cost reduction and access-enhancing technology rests on the assumptions that greater decomposability is technically possible, permitted by legal services regulation, and advisable in terms of proper legal and ethical risk management.<sup>27</sup> However, these assumptions cannot presently be taken for granted, and there are concerns that regulatory uncertainty currently constrains what is possible in Australia.<sup>28</sup> Secondly, given the capacity of AI to manage information at scale, legal tech gives us the promise of greater control over legal information overload.<sup>29</sup> Thirdly and more controversially, it may also reduce the centrality of the human lawyer to core aspects of legal services delivery.<sup>30</sup> At present, however, we are still some way off the point where AI can provide a meaningful substitute for human legal knowledge, other than in quite discrete and routine areas of work, such as automated document review.

This last image, of the opportunity or threat of the “robo-lawyer” — something with the potential simultaneously to cut a swathe through the legal profession, while heralding the dawn of a brave new world of accessible justice — neatly captures much of the

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<sup>26</sup> Goodenough (n 22).

<sup>27</sup> See, eg, Law Society of Western Australia, ‘Guidelines for Lawyers Providing Unbundled Legal Services’, *Law Society of Western Australia* (Summary, 9 August 2017) <[https://www.lawsocietywa.asn.au/wp-content/uploads/2015/10/2017AUG09\\_Summary\\_Guidelines-for-Lawyers-Providing-Unbundled-Legal-Services.pdf](https://www.lawsocietywa.asn.au/wp-content/uploads/2015/10/2017AUG09_Summary_Guidelines-for-Lawyers-Providing-Unbundled-Legal-Services.pdf)>.

<sup>28</sup> See, eg, JusticeConnect, ‘Unbundling and the “missing middle”: Submission to the Law Council of Australia’s Review of the Australian Solicitors’ Conduct Rules’ (Research Paper, JusticeConnect, July 2018). Uncertainties in Australian jurisdictions include the extent to which Rules 10 (successive conflicts of interest) and 13 (completion or termination of engagement) of the Australian Solicitors Conduct Rules act as a constraint on unbundling; Queensland Law Society, *Australian Solicitors Conduct Rules* (at 1 June 2012) r 10, r 13.

<sup>29</sup> This problem is fundamental but not, of course, unique to law. Over 30 years ago Baudrillard identified the paradox, whereby the degree of information saturation in the digital age has left us occupying ‘a universe where there is... less and less meaning’: Jean Baudrillard, *In the Shadow of the Silent Majorities* (MIT Press, 1983) 95.

<sup>30</sup> See, eg, Richard E Susskind and Daniel Susskind, *The Future of the Professions: How Technology Will Transform the Work of Human Experts* (Oxford University Press, 2017).

ambivalence in our relations between law and information technology. Important questions also remain regarding the risks of AI use in the legal space. The New South Wales FLIP Inquiry has thus highlighted the extent to which automation of legal information and advice functions raises new challenges for legal services regulation (but without enumerating what those are).<sup>31</sup> Such tools may also have significant unintended consequences. The growing use of legal analytics is a case in point. Analytics tools may deeply embed, and effectively hide, undesirable biases, either because: at their crudest, they draw on existing patterns of (biased) human decision-making,<sup>32</sup> or because of the way certain predictive values are prioritised in the design of the algorithm.<sup>33</sup> Moreover, the capacity for legal prediction tools to change human behaviour also cannot be discounted. For example, we do not know how the use of legal analytics to calculate the success rates of advocates before the courts might actually change the behaviour of those advocates, for example, making them more personally risk averse in terms of their case selection and settlement decisions.

Notwithstanding its importance, I suggest legal tech (in the narrow sense of the term) is not the only game in town, and may not be the most profound of the transformations that we are observing. The three further examples that follow, illustrate the scope and scale of other changes consistent with “onlaw” development.

Thirdly, advances in ICT also have the potential to challenge and disrupt long-established legal decision-making and adjudicative processes. Digital technologies, for example, are increasingly impacting the form and presentation of evidence, both by permitting (or excluding) new evidentiary tools,<sup>34</sup> and offering new and powerful modes of presentation — such as advanced data visualisation techniques, including composite photographs, graphical representations of computer-based analytics, and digital animations or

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<sup>31</sup> Law Society of New South Wales, ‘Report of the Commission of Inquiry into the Future of Law and Innovation in the Profession’ (Research Report, The Law Society of NSW, 2017) 112; Bennett et al (n 24) 30-35.

<sup>32</sup> This is, of course, part of a much wider debate on the operation of AI: see, eg, Ellen Broad, *Made By Humans: The AI Condition* (Melbourne University Press, 2018).

<sup>33</sup> For example, the recent debate on whether Northpointe’s COMPAS risk assessment tool, widely used to assist bail decision-making in the US is racially biased — for a useful overview of the controversy, see, eg, Matthias Spielkamp, ‘Inspecting Algorithms for Bias’, *MIT Technology Review* (online, 12 June 2017) <<https://www.technologyreview.com/s/607955/inspecting-algorithms-for-bias>>.

<sup>34</sup> Often controversially, as with the polygraph, or (more recently) the colposcope. The latter is an adapted microscope which in some jurisdictions is being used to identify and record genital injuries on the victims of sexual assault, notwithstanding both victim-centric and scientific reservations about its use — Gethin Rees, ‘Making the Colposcope “Forensic” in Cloatre and Pickersgill (n 13) 86.

simulations. The effects and consequences of these are in some respects profoundly uncertain. Are they just new tools, or do they act as a form of meaning (re)making in their own right? To what extent do they change the trier of fact's perception and treatment of the evidence they supposedly represent? Courtroom technologies, in short, may have subtle effects on underlying forms and methods of interpretation, as Sherwin concludes:

When law lives as an image on the screen the *aesthetic forms, interpretative methods, and narrative content* of popular visual entertainment inevitably find their way into the courtroom.... We look through the screen as if it were a window onto reality rather than the construction that it is...<sup>35</sup>

The adequacy of evidentiary and ethical rules to deal with such representations is moot,<sup>36</sup> and the ability of the legal system properly to debate the effects of such innovations will likely depend significantly on both the visual and digital literacy of key legal actors, such as lawyers and judges.<sup>37</sup>

Moreover, fundamental access to legal entitlements and to modes of dispute resolution are also changing, with access — and entitlement itself — mediated increasingly through digital means. ODR, particularly in the consumer and digital rights spheres, potentially represents an exponential jump in the scale of privatised dispute resolution. The eBay Resolution Centre, for example, reportedly resolves over 60 million disputes a year<sup>38</sup> — the great majority with little or no human intervention. In the US, led by platform company Modria, and a growing number of others, ODR now resolves roughly as many disputes as the US court system.<sup>39</sup> Court-annexed ODR platforms are also emerging across other jurisdictions including Australia.

Whether the move to ODR is simply an unproblematic process change is itself a contested question. As early as 2001, Katsh and Rifkin were discussing the role of technology as a

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<sup>35</sup> Richard K Sherwin, *Visualizing Law in the Age of the Digital Baroque: Arabesques and Entanglements* (Routledge, 2011) 62.

<sup>36</sup> *Ibid* 61; see, eg, Déirdre Dwyer, 'Ethical Constraints on the Visualisation of Evidence at Trial' (2008) 11(1) *Legal Ethics* 85.

<sup>37</sup> Sherwin (n 35).

<sup>38</sup> Madeline Moncrief, 'Momentum for Resolving Small Claims Online Is Gathering Pace' *The Guardian*, (online, 1 April 2015) <<https://www.theguardian.com/media-network/2015/apr/01/resolving-small-claims-online-uk-courts>>.

<sup>39</sup> Andrew M Perlman, 'Reflections on the Future of Legal Services' (Research Paper, No. 17-10, Suffolk University Law School, 9 May 2017) 3.

distinct “fourth party” in dispute resolution.<sup>40</sup> While they saw technology essentially as a benign intervenor, others have been less certain. Carrie Menkel-Meadow, for example, has raised questions over the extent to which efficiency goals for ODR may override quality and justice concerns.<sup>41</sup> The systemic consequences for the development of the law in these fields moreover appear to have been relatively little discussed.<sup>42</sup> To summarise, while such changes may have considerable potential, as with other forms of legal tech, to enhance access to law, real problems with the social distribution of access and accessibility as well as questions about the quality of justice delivered need ongoingly to be addressed;<sup>43</sup> vigilance is also required as to the extent and quality of user-centred design.

Fourthly, technological changes may cause subtle but important epistemological shifts within the formal legal system. For example, there are arguments that the digitisation of information itself changes both the process of judicial decision-making, and ultimately its very form. While judges, for example, have been relatively quick to note the effect of digitisation of law reports in reducing volume control and increasing complexity and information overload on the court system,<sup>44</sup> they have, on the whole, been less quick to interrogate the deeper effects of technology on the practice of legal argumentation and judicial decision-making,<sup>45</sup> or to comment on the rise and risks of the “copy and paste” judgment.<sup>46</sup>

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<sup>40</sup> M Ethan Katsh and Janet Rifkin, *Online Dispute Resolution: Resolving Conflicts in Cyberspace* (Jossey-Bass, 1st ed, 2001).

<sup>41</sup> Carrie Menkel-Meadow, ‘Is ODR ADR? Reflections of an ADR Founder from 15th ODR Conference, the Hague, the Netherlands, 22-23 May 2016’ (2016) 3(1) *International Journal of Online Dispute Resolution* 4-7; though cp Colin Rule, ‘Is ODR ADR? A Response to Carrie Menkel-Meadow’ (2016) 3(1) *International Journal of Online Dispute Resolution* 8-11.

<sup>42</sup> For the classic critique of the privatisation of justice consequent on the increased emphasis on inter-party settlement and ADR, see, Owen Fiss, ‘Against Settlement’ (1984) 93 *Yale Law Journal* 1073; see also Riikka Koulu, *Law, Technology and Dispute Resolution: The Privatisation of Coercion* (Routledge, 2018).

<sup>43</sup> See, eg, Catrina Denvir, ‘Assisted Digital Support for Civil Justice System Users: Demand, Design and Implementation’ (Final Research Report, UCL Centre for Access to Justice, April 2018) 76.

<sup>44</sup> Stephen Gageler, ‘What is Information Technology Doing to the Common Law?’ (2014) 39 *Australian Bar Review* 146, 154-6; see also Dietrich Fausten, Ingrid Nielsson and Russell Smyth, ‘A Century of Citation Practice on the Supreme Court of Victoria’ (2007) 31 *Melbourne University Law Review* 733 (correlating increased length of judgments and rise in number of citations with greater use of ICTs).

<sup>45</sup> Stephen Gageler, and Alan Rodger, ‘The Form and Language of Judicial Opinions’ (2002) 118 *Law Quarterly Review* 226, note the greater use of footnotes and quotations in judgments since the advent of word processing, but say little about how this increased intertextuality impacts the nature and treatment of judgments.

<sup>46</sup> Douglas R Richmond, ‘Unoriginal Sin: The Problem of Judicial Plagiarism’ (2013) 45 *Arizona State Law Journal* 1077. Note, somewhat exceptionally, the decision of the full Family Court in *CCD and AMGD* [2006]

Lastly, and perhaps most fundamentally of all, ICT is also re-shaping our systems of regulation, resulting in both technological enhancement of existing regulatory processes, but also in the potential for some de-centring of law itself by alternative modes of regulation and governance.<sup>47</sup> Lawrence Lessig has famously characterised the widening of modalities of regulation to encompass the use not just of law, but of other social norms, the market, and what he calls architecture' or code.<sup>48</sup> These effects may be illustrated, by reference to the significant growth in both of what I would define as "epistemic" governance, and regulation by design — what Brownsword now brackets within the phrase 'technological management' of society.<sup>49</sup>

I use the term "epistemic" governance here to describe systems of governance by and through (expert) knowledge, which are, of course, increasingly facilitated and mediated by technology. The emphasis on epistemic governance acknowledges the transformation information technology brings to the Foucaultian power/knowledge conjunction, particularly through the increased capacity of both public agencies and private corporations to gather, store, and manipulate big data (for example to enable searches through the social media<sup>50</sup> or biometric<sup>51</sup> profiles of a target population), and the associated potential for the deployment of both persuasive technologies<sup>52</sup> and more covert techno-regulation.

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FamCA 1291 at [71], criticising the trial judge's use of cut and paste from an earlier judgment, since it militated against the perception that justice was done on the facts of the later case.

<sup>47</sup> On the increasing polycentricity of regulation generally, see, eg, Julia Black, 'Decentring Regulation: Understanding the Role of Regulation and Self Regulation in a "Post-Regulatory" World', (2001) 54 *Current Legal Problems* 103; Andrew Murray, *The Regulation of Cyberspace: Control in the Online Environment* (Routledge, 2007) 27, 47-9.

<sup>48</sup> Lawrence Lessig, *Code and Other Laws of Cyberspace, Version 2.0* (Basic Books, 2008) 121-6.

<sup>49</sup> Brownsword (n 10); Roger Brownsword and Karen Yeung (eds), *Regulating Technologies: Legal Futures, Regulatory Frames and Technological Fixes* (Hart, 2008).

<sup>50</sup> Ron Nixon, 'US to collect social media data on all immigrants entering the country', *New York Times* (online, 28 September, 2017) <<https://www.nytimes.com/2017/09/28/us/politics/immigrants-social-media-trump.html>>.

<sup>51</sup> See Richard Hindmarsh and Barbara Prainsack (eds), *Genetic Suspects* (Cambridge University Press, 2010).

<sup>52</sup> Persuasive technologies are not coercive but seek to affect behaviour change through persuasion and social influence. For an overview of the commercial deployment of persuasive technologies, see Nanette Byrnes, 'Technology and Persuasion' [2015] (May/June) *MIT Technology Review* (online) <<https://www.technologyreview.com/s/535826/technology-and-persuasion/?set=535816>>. On persuasive technology as a possible sub-set of techno-regulation; see, eg, Bibi van den Berg and Ronald E Leenes, 'Abort, Retry, Fail: Scoping Techno-Regulation and Other Techno-Effects' in Mireille Hildebrandt and Jeanne Gaakeer (eds), *Human Law and Computer Law: Comparative Perspectives* (Springer Netherlands, 2013) 67.

Technological management constitutes a growing trend by which digital technology itself has become a mode of regulation. Brownsword, drawing on Hildebrandt, defines technological management as technologies that are “constitutive” in the sense that they are choice reduction or even choice removal tools; they ‘prevent, disable or compel certain actions’.<sup>53</sup> Technological management can thus be seen as the relatively extreme end of a continuum of control mechanisms. These range from self-regulatory (persuasive) techniques (for example, the use of CCTV to police public spaces), through degrees of choice reduction — such as technological erosions or re-directions of official discretion (including removing ‘human in the loop’ protocols),<sup>54</sup> ‘nudge’ regulation,<sup>55</sup> to mechanisms that are essentially non-normative, and impose substantial (or complete) control through technological means. Examples of the latter might include both the relatively uncontroversial, such as the introduction of centrally locking railway carriage doors, but also more tendentious innovations, such as moves towards ‘technological incarceration’ which may involve significant and structurally different infringements of autonomy and privacy from more conventional criminal penalties.<sup>56</sup> In short, the introduction of such non-normative forms of regulation adds to the complexity of the regulatory environment; it raises important questions regarding the “right” to moral and legal agency (in essence the existence of a right or at least a freedom to do wrong), and begs questions about the future importance of law as a *check* on technological management.<sup>57</sup>

In sum, these various developments challenge, in a variety of ways, our normal conception of the role of lawyers, and of the centrality of law itself. Lawyers have been defined primarily as expert knowledge workers.<sup>58</sup> But, as more of that deep domain

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<sup>53</sup> Brownsword (2015) (n 42) 25; Mireille Hildebrandt, ‘Legal and Technological Normativity: More (and Less) than Twin Sisters’ (2008) 12(3) *Techné* 169.

<sup>54</sup> See, eg, Ellen Broad’s discussion of the controversial Centrelink automated debt recovery system, (n 32) 155-60; see, also Virginia Eubanks’s discussion of the Allegheny Family Screening Tool used to detect children at risk, in *Automating Inequality: How High Tech Tools Profile, Police and Punish the Poor* (Macmillan, 2018).

<sup>55</sup> Richard H Thaler and Cass R Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press, 2008). For examples of technological nudges, see Nassim Khadem, ‘How the ATO is nudging Australians to pay more tax’ *Sydney Morning Herald*, (online, 15 August 2018) <<https://www.smh.com.au/money/tax/how-the-ato-is-nudging-australians-to-pay-more-tax-20180813-p4zx8x.html>>; see also, Australian Government’s Behavioural Economics Team (BETA), ‘Projects’, *BETA* (Webpage, 2018) <<https://behaviouraleconomics.pmc.gov.au/projects>>.

<sup>56</sup> Mirko Bagaric, Dan Hunter, and Gabrielle Wolf, Technological Incarceration and the End of the Prison Crisis (2018) 108 *Journal of Criminal Law & Criminology* 73.

<sup>57</sup> See, eg, Brownsword (n 10) 47-49.

<sup>58</sup> Susskind and Susskind (n 30) 193-5.

knowledge becomes automatable, what is it exactly that lawyers will sell? Indeed, even more fundamentally, why should we continue to assume in an age of “onlaw” that lawyers (as presently understood), are entitled to exercise a monopoly in making and selling law?<sup>59</sup> Our assumptions about the centrality of law and the normal form of legal infrastructure itself are also being, or are likely to be, challenged by the growth in technology. Regulatory theory has long been telling us that law is only one mode of regulation, albeit a very important one. Nevertheless, the interplay between regulatory pluralism, polycentricity, and technological innovation remains somewhat underexplored. A focus on the regulation of technology (where most of the attention on “law and technology” has been) does not necessarily provide insights into the changing technology of regulation. A wider understanding of the latter may demonstrate not just the existence of new ways of implementing and enforcing “law”, but the possibility that technology is literally transforming law (as “code” or design, for example), and — more worryingly in terms of “Rule of Law” values — enabling what Brownsword has described as a ‘shift away from normative signals’ to more techno-regulation in general.<sup>60</sup> What these examples indicate, moreover, is that it is probably no longer sufficient to think of information technology as just another tool in the legal environment: here too technology is taking on the quality of Florida’s environmental force. In this light, it is important to ask how is, and how should legal education respond?

## II TECHNOLOGY IN LEGAL EDUCATION

There is little doubt that legal education has been busy with information technology. Content-driven changes abound in the invention of new subjects or the re-organisation of old ones, including both substantive legal subjects and those which expose students to an appreciation of how new technologies in law operate.<sup>61</sup> Many of these, however, still tend to be optional subjects peripheral to the experiences of some proportion, if not the

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<sup>59</sup> Cp Hadfield’s (n 16) 349 conclusion that ‘leaving it to the lawyers’ explains the persistence of much inadequate, costly, and unduly complex legal infrastructure.

<sup>60</sup> Roger Brownsword, ‘Lost in Translation: Legality, Regulatory Margins and Technological Management’ (2011) 26 *Berkeley Technology Law Journal* 1321, 1364.

<sup>61</sup> Eg, options in ICT and the Law, Cybersecurity Law, Privacy Law, and in intellectual property subjects, or in terms of new ‘applied’ subjects such as Law Apps, Legal Design, Quantitative Legal Analysis or Computational Legal Studies.



majority of our students. Process-wise, most schools, of course, also expect students to engage with specific ICTs, though much of this will be quite a low level. Law schools in the UK, for example, have been criticised for a thinness to their digital literacy policies,<sup>62</sup> and there is little basis to suggest that their Australian counterparts are significantly ahead of the game.<sup>63</sup> Technology use in the classroom also tends to be highly variable in both quality and quantity. Outside of legal research and information retrieval tools, most law schools still have limited access to the (expensive) technologies that are re-shaping practice. Applied technology activities are often extra-curricular, such as extra-mural coding courses, or the opportunity to participate in hackathons.<sup>64</sup>

Undoubtedly some schools are going further, both in embedding technology use, and in placing technology conceptually rather more at the core of the curriculum, for example by building a concentration,<sup>65</sup> or even organising their primary “brand” around law and new technology themes.<sup>66</sup> How much this goes beyond marketing and actively changes students’ (and teachers’) deeper understanding of the law and technology relation may be moot.

The law schools’ response to legal tech offers a useful case study of what is happening and why. As in so many things, American experience has been a driver, and the recent “crisis” in US legal education has seen a flurry of activity.<sup>67</sup> Much of it has been geared to

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<sup>62</sup> Julian Webb et al, ‘Setting Standards: The Future of Legal Services Education and Training Regulation in England and Wales’ (Legal Education and Training Review, June 2013), paras 2.99-2.100; See also, British and Irish Association of Law Librarians, ‘BIALL Legal Information Literacy Statement’, *BIALL* (Webpage, 2018 <<https://biall.org.uk/careers/biall-legal-information-literacy-statement/>>).

<sup>63</sup> A degree of digital literacy is implicit in the ‘Thinking’ and ‘Research’ skills components of the Threshold Learning Outcomes (TLOs) for law degrees; see, eg, Council of Australian Law Deans, ‘Resources’, *Council of Australian Law Deans* (Webpage, 2019) <<https://cald.asn.au/resources/education/>>. However, the broad-brush approach of the TLOs may have the effect of understating the importance in the digital context of skills such as (multi-)media literacy and information management; see, eg, James Holland and Julian Webb, *Learning Legal Rules: A Student’s Guide to Legal Method and Reasoning* (Oxford University Press, 9<sup>th</sup> ed, 2016), 36-40.

<sup>64</sup> Examples include *HackJustice* (at UNSW) and *#BreakingLaw* (at Melbourne Law School, and the University of Technology, Sydney (UTS)).

<sup>65</sup> See, eg, UTS, ‘Legal Future and Technologies Major’, *UTS* (Webpage, 23 January 2019) <<https://www.uts.edu.au/future-students/law/course-experience/new-legal-futures-and-technology-major>>.

<sup>66</sup> See, eg, Swinburne Law School’s focus on innovation, creativity and intellectual property, equipping students for the future workforce; Swinburne University of Technology, ‘Faculty of Business and Law’, *Swinburne Law School* (Webpage, 6 July 2018) <<http://www.swinburne.edu.au/business-law/schools-departments/swinburne-law-school/>>.

<sup>67</sup> For a critical discussion of the politics of crisis, see Richard L Abel, ‘“You Never Want a Serious Crisis to Go to Waste.” Reflections on the Reform of Legal Education in the US, UK, and Australia’ (2015) 22(1) *International Journal of the Legal Profession* 3; Bryant G Garth, ‘Crises, Crisis Rhetoric, and Competition in

persuading law school applicants and the profession that, notwithstanding criticisms from the Carnegie Foundation and others, the JD is not broken, and that academics can be useful partners to the profession in responding to the wave of disruptions that have swept the legal services market since the global financial crisis.<sup>68</sup> This rhetoric has been reflected in curricular reforms, many directed to making the final year of the JD more practical, often through the adoption of extra clinical programs, simulations and skills courses, but also by including work on legal practice technologies, legal design projects, and innovation incubators. One other consequence of this has been a proliferation of applied research and teaching “centres” organised around legal tech and innovation.<sup>69</sup>

While I would not wish to deny that such developments are useful and have some genuine value, it is important to focus on the extent to which market utility and the search for relevance often appear to be among the key drivers of change. Oliver Goodenough thus asserts:

Legal education must take as a starting point that we need to create useful capacities in our students.... It is time to get over the old canard about not being a “trade school.” If teaching our graduates how to be effective within law’s critical work is teaching them a trade, then we should embrace the label, not shun it.<sup>70</sup>

Goodenough’s position is not as anti-intellectual as this may sound out of context, but it is instrumental in treating (workplace) effectiveness and competence as critical traits that should be developed by law school. Employability, in short, is key, and greater instruction in law and technology and in the skills associated with technological innovation, delivers that value.

The pursuit of such pragmatic outcomes also comes across strongly in other jurisdictions, including Australia. The recently constituted Assuring Professional Competence

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Legal Education: A Sociological Perspective on the (Latest) Crisis of the Legal Profession and Legal Education’ (2013) 24(2) *Stanford Law & Policy Review* 503.

<sup>68</sup> See William M Sullivan et al, *Educating Lawyers: Preparation for the Profession of Law* (Jossey-Bass/Wiley, 2007); see also, Brian Z Tamanaha, *Failing Law Schools* (The University of Chicago Press, 2012).

<sup>69</sup> See, eg, Perlman (n 39) 6-7, for an overview.

<sup>70</sup> Oliver Goodenough, ‘Developing an E-Curriculum: Reflections on the Future of Legal Education and on the Importance of Digital Expertise’ (2013) 88(3) *Chicago-Kent Law Review* 845.

Committee (“APCC”)<sup>71</sup> has thus taken the position that, in the context of the “disruptive innovation” of legal practice

[i]f we want to be sure that practising lawyers are able to provide their services competently, efficiently and ethically as circumstances change around them, we need to make sure that they acquire and maintain knowledge, skills and values that are appropriate to equip them to meet the inevitable challenges they will face.<sup>72</sup>

More specifically, the New South Wales Law Society’s FLIP Inquiry has observed:

it was suggested that students be familiar with using new legal technologies, such as data analytics which underlies predictive coding for discovery or online dispute resolution platforms. Students would then be able to use technology in their future careers, including being able to provide assistance to clients who may need to use or provide these services. Being at least technology-literate, and preferably having some hands-on ability with technology was a central focus of representations to the Future Committee.<sup>73</sup>

Such an instrumental focus is, perhaps, unsurprising from professional bodies focused on maintaining competence, and market position. What would be more problematic is its adoption as a rationale for innovation in the academy, not least because that plays into an attitude to the law and technology relation that I will now describe.

### III INFORMATION TECHNOLOGY & “ANXIOUS LEGAL STUDIES”

While the case for engaging with digital disruption is, ultimately, unarguable, there is a risk that our response reflects a mode of what I will here characterise as “Anxious Legal Studies”. Anxiety is, to an extent, understandable, and not entirely misplaced.<sup>74</sup> There is, after all, much to be anxious about currently in both higher education and the legal services market. It is perhaps also an inevitable response to deep technological change;

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<sup>71</sup> The APCC is a sub-committee of the Law Admissions Consultative Committee. It was established in late 2017 with a remit to identify the necessary competences of a practising lawyer, ‘in the foreseeable but uncertain future’, with a view to developing a Competence Statement for Australian Legal Practitioners; See, eg, Assuring Professional Competence Committee, ‘Assuring Professional Competence: What We Need to Do’, *Law Council of Australia* (Web page, 2017) 1 <<https://www.lawcouncil.asn.au/resources/law-admissions-consultative-committee/assuring-professional-competence-committee>>.

<sup>72</sup> *Ibid* 2.

<sup>73</sup> Law Society of New South Wales (n 31) 77.

<sup>74</sup> My intention in using this phrase is to challenge and (in its own way) disrupt ways of thinking about technology that I want to suggest are problematic, but, as I hope will be readily apparent, it does not seek to deny or belittle matters of genuine concern (intellectual, practical or emotional) for academics, practitioners and students.

as Alvin Toffler famously observed, the pace of technological transformation means that the future too often arrives prematurely, and with a psychic and social cost, reflected in experiences of overwhelm, disorientation, and denial.<sup>75</sup>

“Anxious Legal Studies” may well be the legal academic equivalent of Toffler’s future shock. Technological change presents us with a set of largely unresolvable problems and paradoxes. As lawyers, we are trained to see law as a tool for resolving society’s problems — not a perfect one, but a useful one nonetheless. Emerging technologies continue to challenge that perception, and uncover (if sometimes only fleetingly) the troublesome nature of the underlying law-technology relation. Law and technology have, on the one hand, conventionally been portrayed as distinct and often competing fields of knowing and acting, but, on the other, as fundamentally necessary, each for the other. This ambiguous relationship is most apparent in the related social expectations we have for both. There is thus an expectation that law should be able to resolve for society the regulatory problems that digital technology creates, and another that such technology should be (increasingly) effective in regulating social activities that are otherwise beyond the reach of the conventional forms and processes of law.<sup>76</sup> These expectations are often unrealistic, and, in practice, given the complexity and indeterminacy of regulatory steering, often remain unsatisfied.<sup>77</sup>

This has resulted in a certain path dependency in much of the legal discourse. Law may be identified as the assurer of a brighter (technological) future, but it is also required to be always already lacking.<sup>78</sup> Existing laws are generally inadequate. They lack flexibility, generalisability (or conversely sufficient specificity), or foresight. In a common trope, law suffers from the “pacing problem”.<sup>79</sup> It is thus the poor relation, struggling to keep up with

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<sup>75</sup> Alvin Toffler, *Future Shock* (Bantam Books, 1984).

<sup>76</sup> Similar tendencies have been noted in the shaping of policy discourses around law and science more generally: see, eg, Sheila Jasanoff, *Science at the Bar: Law, Science, and Technology in America* (Harvard University Press, 1997) 7; John Paterson, ‘Trans-Science, Trans-Law and Proceduralization’ (2003) 12(4) *Social & Legal Studies* 525.

<sup>77</sup> *Ibid*, Paterson.

<sup>78</sup> This is perhaps inevitable given that, as Lyria Bennet Moses insightfully observes, commentators generally tend to be wedded to a ‘march of progress’ narrative in which the overarching view of technology is positive, notwithstanding the risks identified; Lyria Bennet Moses ‘Agents of Change’ (2011) 20(4) *Griffith Law Review* 763, 764.

<sup>79</sup> *Ibid* Bennet Moses.

the demands of technology, and invariably losing the race.<sup>80</sup> This representation is not without practical consequences. As Lyria Bennett Moses concludes

It suggests a need for urgent new legislation, despite the advantages in some cases of delay. It pits the rush for technology-specific responses against the need to ‘future proof’ legislation through technology-neutral drafting, without careful consideration of the advantages and disadvantages of either approach. It suggests a need for radical responses, such as Calabresi’s suggestion that judges be given power to revise obsolete statutes.<sup>81</sup>

The race analogy also assumes that law can catch-up, or at least get close enough to make a difference, and that when it does so, legal changes actually (i) impact designer and producer behaviours, (ii) in the way the law-makers intended. As much social-legal research highlights, we make those assumptions somewhat at our peril. Continuing advances in ICTs will, moreover, only add to law’s difficulties, as self-organising “third-order technologies” take greater control of design, development and use functions. This may bring us closer to the technophile’s dream of eliminating “pebkacs”,<sup>82</sup> but it introduces important prudential, technical and legal questions — not least regarding norms of system control, transparency, and explainability,<sup>83</sup> and the need for public participation in system design and deployment decisions,<sup>84</sup> as well as the obvious but challenging questions regarding responsibility for autonomous systems. In so far as these issues have legal or regulatory dimensions, most, as in the instance of self-driving vehicles, are being addressed by legal academics and policymakers somewhat piecemeal, and on the hoof.<sup>85</sup>

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<sup>80</sup> Cp the oft-cited statement by Windeyer J in *Mount Isa Mines Ltd v Pusey* (1970) 125 CLR 383 to the effect that “Law [marches] with medicine but in the rear and limping a little”.

<sup>81</sup> Moses (n 78) 765 (emphasis in the original).

<sup>82</sup> “Problem exists between keyboard and chair”.

<sup>83</sup> Ugo Pagallo, ‘Good Onlife Governance: On Law, Spontaneous Orders, and Design’ in Floridi (ed) *The Onlife Manifesto. Being Human in a Hyperconnected Era* (Springer, 2015) 161ff; On explainability in AI, see, eg, Derek Doran, Sarah Schulz, Tarek R Besold, ‘What Does Explainable AI Really Mean? A New Conceptualization of Perspectives’ (2 October 2017) arXiv:1710.00794; Dong Huk Park et al ‘Attentive Explanations: Justifying Decisions and Pointing to the Evidence’ (14 December 2016) arXiv:1612.04757.

<sup>84</sup> See, eg, Danielle Keats Citron, ‘Technological Due Process’, (2008) 85 *Washington University Law Review* 1249; Roger Brownsword, ‘Lost in Translation: Legality, Regulatory Margins and Technological Management’ (2011) 26 *Berkeley Technology Law Journal* 1321, 1351-2. See also, Tim Miller, Piers Howe and Liz Sonenberg, ‘Explainable AI: Beware of Inmates Running the Asylum Or: How I Learnt to Stop Worrying and Love the Social and Behavioural Sciences’ (5 December 2017) arXiv: 1712.00547 (on the importance of user-centred design for truly explainable AI).

<sup>85</sup> James M Anderson et al, *Autonomous Vehicle Technology: A Guide for Policymakers* (Rand Corporation, rev. ed, 2016) 43ff (noting the divergences in the ‘flurry’ of state regulation that has been introduced in the US since 2011); See also, Cp Alice Armitage, Andrew K Cordova and Rebecca Siegal, ‘Design Thinking: The

The focus on such “mind the gap” problems and problem-solving, betrays both the instrumentalism and reductionism of “Anxious Legal Studies”. First, it highlights that Anxious Legal Studies in law school has so far tended to provoke the most anxiety about the wrong things: the pursuit of short-term relevance and technical training in the tools. Secondly, it therefore fails adequately to address the larger challenge of information technology — namely at what point do we aim to develop the capacities to understand and work with technology in its deeper conceptual<sup>86</sup> and wider cultural, ethical, and economic contexts? Thirdly, “Anxious Legal Studies” also seems to force us into a binary choice. That is, it wants us either to push on and pursue the technological program, melding law to the aims of technology as best we can, or (less likely) it hints that we can weaponise the law and use it as a tool to rebel against the technological. The trouble is that, as Heidegger tells us,<sup>87</sup> this is no choice at all; both responses are a mere reaction to the already technological circumstances in which we find ourselves, and both fail adequately to address the complexity of human being in an age of hyper-connectivity. The core question is no longer how much we should seek to advance or limit technology, but how can we best deal responsibly with the ongoing and deepening entanglement of human and ICT? If “Anxious Legal Studies” limits our ability to ask the right questions, law schools will likely offer only limited forms of critical engagement with or thought leadership for this field. This brings us, finally, to what the role of law school could be in an age of hyper-connectivity.

#### IV TOWARDS AN “ONLAW” CURRICULUM — A BRIEF MANIFESTO

What might taking the “onlife” transformation seriously require of legal education? In this section, I offer five basic principles for curriculum re-design as, I hope, a prompt and provocation for further debate amongst the stakeholders in legal education.

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Answer to the Impasse between Innovation and Regulation’, (2017) 2(1) *Georgetown Law Technology Review* 3 (discussing fragmented responses to regulating the gig economy).

<sup>86</sup> Cp Lyria Bennett Moses, ‘Why Have a Theory of Law and Technological Change?’ (2007) 8(2) *Minnesota Journal of Law, Science and Technology* 589.

<sup>87</sup> Hubert Dreyfus, ‘Heidegger on Gaining a Free Relation to Technology’ in David M Kaplan (ed), *Readings in the Philosophy of Technology* (Rowman & Littlefield Publishers, 2nd ed, 2009) 53.

### *A Pervasiveness*

The real problem for “law and technology” is neither law nor technology, but how we conceive of the “and” that connects and divides them. “Onlaw” obliges us to confront both the extent to which law is always already technology, and the ways in which digital technology is increasingly becoming law. In this light, the conversation about information technology is too important to be peripheral; it must be understood, and problematised, pervasively across the curriculum.

### *B Inter-disciplinarity*

It is striking the extent to which the most pressing or “wicked” problems of society do not fit neatly within conventional academic boxes — they are complex, normatively and often spatially fluid, trans-scientific, and also trans-legal.<sup>88</sup> They will not be solved by law, science, or technology working alone.<sup>89</sup> At a practical level, the ability of individual lawyers to work with other professions and disciplines has long been recognised as important in both the professional<sup>90</sup> and research worlds, yet that insight still seems too often translate poorly to much of the law student experience.<sup>91</sup> Given the likely increasing fluidity of professional knowledge and professional roles, this need is surely more pressing, not less.

The justification for greater inter-disciplinary skills and understanding moreover, is not just pragmatic. Working in and with a range of disciplines is critical to treating the phenomenon of law (including “onlaw”) as a proper field of inquiry, rather than as a discipline that is, to some degree, isolated by its own epistemological assumptions. If we look at the law in this light, why should we not become more like other professional schools (in business, design, public health, and medicine), where anthropologists,

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<sup>88</sup> Paterson (n 62).

<sup>89</sup> For recognition specifically that the challenges of AI need to be researched and understood in deeper interdisciplinary terms, see Miller et al (n 84), see also, Meredith Whittaker et al, ‘AI Now Report 2018’ (Research Report, New York University, December 2018) 36.

<sup>90</sup> Strikingly, the foundational Ormrod Report observed nearly fifty years ago that law students should be introduced ‘to the knowledge and methods of other disciplines which, later on, may have a direct bearing on [their] work as a professional lawyer; Committee on Legal Education, *Report of the Committee on Legal Education* (Her Majesty’s Stationary Office, 1971) para 102; see also, Law Society of New South Wales (n 26) 79, for a recent manifestation of the argument.

<sup>91</sup> On the contested and arguably subordinate status of socio-legal and inter-disciplinary approaches in the Australian law school, see, eg, Ian Duncanson, ‘Degrees of Law: Interdisciplinarity in the Law Discipline’ (1996) 5 *Griffiths Law Review* 77; Margaret Thornton, *Privatising the Public University: The Case of Law* (Routledge, 2012) 168–70.

sociologists, computer scientists, ethicists, economists, organisational theorists, and others, could teach and work alongside lawyers in the work of both theory-building, and resolving real-world problems?

### *C Design thinking*

There is no escaping the fact that many of our existing legal institutions are under pressure. Increasing costs; cuts in legal aid; court delays, often exacerbated by growing numbers of self-represented litigants, and the limited capacity of a profession-centric legal services market to deliver widespread and affordable access to justice are indicative of a system in, or at least on the edge of crisis. These are not just resource problems; they are design problems.

If lawyers are to function as Fuller's active "architects of social structure",<sup>92</sup> then we need to take legal design seriously. Thinking explicitly about law as a design problem matters, and that includes bringing a critical perspective to the role of legal tech.<sup>93</sup> Technology is being widely touted as a design solution, and there is no doubt that much effort and good work is going in to using technology to address real world problems. However, my intuition is that much of that work is going into producing localised fixes for very specific problems. While such fixes are undoubtedly valuable if they make an appreciable difference to individual lives, what are the systemic consequences of re-constructing the justice system around disparate and quite often disconnected tech solutions? Who is making sure that we ask the deeper questions about what law does, independent of what lawyers do? Problem and tool-oriented, agile design is welcome, but it should not displace the bigger policy conversations about rule and institutional design.<sup>94</sup>

Law schools could play a central role in initiating and shaping this conversation, one that goes beyond hackathons and law apps. Legal design labs, like those at Stanford<sup>95</sup> and

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<sup>92</sup> Fuller (n 11) 265.

<sup>93</sup> See, eg, Portable, 'Design for Justice' (Research Report, Portable, 2018); see also, for an excellent introduction to design thinking for social innovation more generally, see Ezio Manzini, *Design, When Everybody Designs: An Introduction to Design for Social Innovation* (The MIT Press, 2015) 29, 31; Manzini defines design as 'a way of thinking and behaving... combining three human gifts: critical sense (the ability to look at the state of things and recognize what cannot, or should not be, acceptable), creativity (the ability to imagine something that does not yet exist), and practical sense (the ability to recognise feasible ways of getting things to happen).

<sup>94</sup> Hadfield (n 16).

<sup>95</sup> Stanford Legal Design Lab, 'Legal Design Lab', *Welcome* (Web Page, 2018) <<http://www.legaltechdesign.com/>>.



Helsinki,<sup>96</sup> provide perhaps a good institutional model going forward, facilitating both design-orientated teaching and research, though they may be limited if they focus too narrowly on tech and tool design as their primary *modus operandi*.

#### D *Ethics & Governance*

Ethics is in many respects a key — and unifying — conversation across disciplines interested in shaping a technological future in which our individual and collective wellbeing will be more and more dependent on ICTs. While new technologies create many specific challenges to our ethics and values, it can be said that the core ethical challenge is intrinsic to the nature of technology itself: that is, its tendency to seek greater flexibility and efficiency for its own sake.<sup>97</sup> In a hyperconnected world, we are, consequently, not just (or always) the powerful subjects using technology, but are also being used by it. This has significant implications for what it means to be human, and a legal subject. Upendra Baxi makes the point with his characteristic vigour:

the notion of being human stands periclated... the bearer of human rights stands recast as either a cyborg or as an informational genetic storehouse.... Old notions of what it means to be, and remain 'human' have been steadily, but spectacularly, rendered obsolete by technoscience."<sup>98</sup>

The blurring of the subject-object relation between humans and technology under conditions of hyper-connectivity is an unavoidable feature of “onlife”. We cannot reverse the obsolescence of which Baxi speaks. A critical issue for governance is, therefore, how do we address or at least manage the extent to which humans are objectified and diminished in this emergent, post-human, information age. This is no small question, as David Post admits

... like the [American] West of 1787, cyberspace poses some hard questions, and could use some new ideas, about governance, and law, and order, and scale.... The problem is the one that Jefferson and his contemporaries faced: How do you build “republican”

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<sup>96</sup> University of Helsinki, ‘Legal Tech Lab’, *Legal Tech Lab* (Web Page, 2019) <<https://www.helsinki.fi/en/networks/legal-tech-lab>>.

<sup>97</sup> Dreyfus, (n 72); see also, Manzini (n 78) 63-4, who also observes that when a new functional technology emerges, the driving force shaping the design of services and systems tends to be the technology, not social need, notwithstanding that such services, etc, will have significant social effects.

<sup>98</sup> Upendra Baxi, *The Future of Human Rights* (Oxford University Press, 2nd ed, 2006) xxiii–xxiv.

institutions – institutions that respect equal worth of all individuals and their right to participate in the formation of the rules under which they live – that scale?<sup>99</sup>

How do we envisage lawyers contributing to *that* conversation? What is our unique viewpoint and contribution? At the very least, abilities to recognise and engage in normative debate and to advise appropriately on a range of law and governance solutions are likely to be important capabilities to instil in the future “onlawyer”.

### *E Skills Are (Still) Not Frills*

A focus on “onlaw” does not displace the need for core skills of critical thinking and creative problem-solving that should be developed by a “good” legal education; indeed, these capacities may be even more critical to legal work as automation steadily reduces the need for deep human knowledge of the law as we currently know it.

There is also a growing recognition that increased technology use actually makes the human arts of lawyering more, not less important. This is not just because, to put it crudely, the legal profession has come to realise that it is really in the “relationship business” not just the “law business”, but because “onlife” itself puts the capacities to interact with others, function relationally and act collaboratively to the fore.<sup>100</sup>

The challenge for law schools, of course, is that the list of knowledge and skills requirements tends to grow, never reduce. Commercial and financial awareness, use of legal tech, project management skills, design-thinking, coding, are all examples of “new” areas of learning currently being emphasised in practice, many relevant to this paper.<sup>101</sup> The question of what to take out has, however, become a recurrent problem in the context of an already crowded curriculum. While this has, to varying degrees, been acknowledged in recent reviews of legal education, none have come up with a clear solution.<sup>102</sup> At a minimum, in the context of a modern, segmented legal services market, there is a need

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<sup>99</sup> David Post, *In Search of Jefferson's Moose: Notes on the State of Cyberspace* (Oxford University Press, 2009) 116-7.

<sup>100</sup> Floridi (n 2) *seriatim*; see also Susskind and Susskind (n 30) 249-50.

<sup>101</sup> Law Society of New South Wales (n 31) 78-9; for example, highlights seven areas of proficiency “necessary for success in future law practice”: technology; practice skills; business skills; project management, internationalisation and cross-border practice; interdisciplinary experience, and resilience, flexibility and ability to adapt to change.

<sup>102</sup> See Julian Webb, ‘Preparing for Practice in the 21<sup>st</sup> Century: The Role of Legal Education and Its Regulation’ in Bernhard Bergmans (ed) *Jahrbuch der Rechtsdidaktik 2017/Yearbook of Legal Education 2017* (Berliner Wissenschafts-Verlag, 2018), 11, 33-34.

for some clear thinking about reducing the load of academic compulsory subjects, and for proper empirical research into training needs. This is neither a straightforward nor inexpensive task, but would be of considerable value in informing the debate about both the necessary professional outcomes of the law degree, and the proper scope of Professional Legal Training courses.

## V CONCLUSION

Information technology is no longer the “new kid on the block”. It is one of the big kids now, and it is increasingly shaping the games that we all play. The time when lawyers could be technological Luddites is clearly long past, but the larger question remains as to what kind of technological understanding of the world we want — and need — tomorrow’s lawyers to possess. I have argued in this paper that throwing a few new skills into the curriculum significantly misses the target. To really answer that question, we need to take seriously the deep entanglement of human and technology under conditions of hyper-connectivity. Consequently, just as information technology cannot be separated from other facets of our human being, it must be at the heart, not the margins of our thinking on legal education.

The broad “principles” expressed in this paper offer, perhaps, a starting point in that conversation, though much of the devil will as always, lie in detailed debate about curricular priorities and the ever-present question about the functions of academic legal education. In the context of the anticipated ruminations of the Assuring Professional Competence Committee, this is not just an intellectual exercise, but a real opportunity to bring the law degree properly into the twenty-first century. We should not let that opportunity go to waste.

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