

LEGAL RESEARCH IN THE FOURTH INDUSTRIAL REVOLUTION¹

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In Tomorrow's Lawyers, Richard Susskind alerts us to the waves of change affecting the legal profession — '[l]egal institutions and lawyers are at a crossroads ... and are poised to change more radically over the next two decades than they have over the last two centuries'. He warns that '[i]f you are a young lawyer, this revolution will happen on your watch'. The focus of this article is on legal research. It examines the main changes taking place in the legal landscape and identifies concerns and perspectives that unexpectedly emerged during interviews with 15 judges, publishers, practitioners and librarians. These concerns include the pressure on traditional modes of law reporting, and the extent to which technology is changing the way lawyers locate and process the law. The article poses a more serious question as to whether any of these technical research changes are significant for the ongoing development of the law. The article explores the way the profession as a whole must counter the uncertainty inherent in legal research in this transition era.

I INTRODUCTION

In *Tomorrow's Lawyers*, Richard Susskind points to the waves of change affecting the legal profession — '[l]egal institutions and lawyers are at a crossroads ... and are poised to change more radically over the next two decades than they have over the last two centuries', and he warns that '[i]f you are a young lawyer, this revolution will happen on your watch'.² Reflective practitioners are fully aware of the transitive legal state, and the possible futures including 'paperless, people-less' courts.³ Most discussion centres on technology's effects on legal procedures and the power of the algorithm to predict outcomes of disputes. A more interesting proposition is whether the electronic research abilities of legal practitioners will be able to keep pace with the expansion of law related information and if this will affect the way the law develops — at least in the short

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1 Klaus Schwab, *The Fourth Industrial Revolution: What It Means and How to Respond* (14 January 2016) World Economic Forum <<https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>>.

2 Richard Susskind, *Tomorrow's Lawyers: An Introduction to Your Future* (Oxford University Press, 2013) xiii.

3 Marilyn Warren, 'Embracing Technology: The Way Forward for the Courts' (2015) 24 *Journal of Judicial Administration* 227, 227 (emphasis added).

term.⁴ The enhanced research functionality may well result in changes to the way lawyers understand and argue the law, even including their choice of precedent in litigation. According to Richard Susskind, ‘when the knowledge required for a given professional service is an intimate familiarity with a large, complex web of interrelated rules — as often it is — then systems are often better placed than human experts to meet the need’.⁵ No doubt, systems are being developed with the ability to solve many complex legal discernment issues. As a profession, we need to be aware of the risks as well as the opportunities in the unfolding electronic research environment.

This article examines the current legal research context. It investigates the main concerns that emerged in conversations with 15 judges, publishers, academics and librarians about the evolving research environment. Based on these discussions, the article puts forward suggestions for managing the change process, which involves all members of the profession. In the digital workplace, lawyers need to be expert at sifting through large amounts of unindexed text. Judges need the most relevant sources in order to produce timely, lucid and principled judgments. Librarians and publishers need to improve the systems for curating the vast amounts of data. The research world is unfolding in a different way to the past. The search algorithms will improve. In the meantime, the interviews flagged the need for vigilance and this must include additional academic investigation on the effects of research methods on legal reasoning and the development of the law.

II THE CURRENT CONTEXT FOR A DISCUSSION OF LEGAL RESEARCH

In the last two centuries, western society has experienced the industrial revolution, the technological revolution, and the digital revolution. We are in the throes of yet another massive change cycle. As part of this transformative stage, technology is delivering opportunities such as instantaneous information retrieval. At the same time, it is also presenting pressures stemming from ‘infobesity’ and ‘the chaos of information overload’.⁶ The digital natives, ‘the first generations to grow up with this new technology’,⁷ when faced with this avalanche of material, are

4 Dana Remus and Frank Levy, ‘Can Robots Be Lawyers? Computers, Lawyers, and the Practice of Law’ (Draft Paper, 30 November 2016) 1 <<http://ssrn.com/abstract=2701092>>.

5 See discussion in Richard Susskind and Daniel Susskind, *The Future of the Professions: How Technology Will Transform the Work of Human Experts* (Oxford University Press, 2015) 279.

6 Dan Jerker B Svantesson, ‘Improving Accessibility to Research Findings in Law: Uniform Summary Statements’ (2013) 38 *Alternative Law Journal* 260, 263.

7 Marc Prensky, *From Digital Natives to Digital Wisdom: Hopeful Essays for 21st Century Learning* (Corwin, 2012) 68; Marc Prensky, ‘Listen to the Natives’ (2006) 63(4) *Educational Leadership* 8.

developing different techniques for reading and processing information. Not all of these techniques encourage deep thinking.⁸

In addition, technology has made empirical research less expensive, and prompted innovative research methods using the newly created data sets. This has led to an increase in interdisciplinary research as opposed to purely doctrinal research. Competition within the tertiary sector is increasingly linked to international quality frameworks. In Australia, industry forces and Excellence for Research Australia are directing academic research outputs. These contextual developments are posing a silent challenge to the legal research status quo and the legal research skills training provided for law students is struggling to adjust.

A Technology, Legal Work and the Fourth Industrial Revolution⁹

In ‘The Future of Employment: How Susceptible Are Jobs to Computerisation?’, Carl Frey and Michael Osborne argue that ‘[s]ophisticated algorithms are gradually taking on a number of tasks performed by paralegals, contract and patent lawyers’.¹⁰ This is occurring at a time when the job market in Australia is awash with law graduates. While in 1988, there were approximately 10 law schools in Australia, in 2018 there are over 40.¹¹ This has led to higher enrolments with 7583 law students graduating in Australia in 2015.¹² Not all graduates enter the profession. However, by October 2016, there were 71 509 practising solicitors in Australia, which represents a 24 per cent increase from 2011.¹³

So it is some consolation that in Frey and Osborne’s opinion, ‘for the work of lawyers to be fully automated, engineering bottlenecks to creative and social intelligence will need to be overcome, implying that the computerisation of legal

- 8 The concepts ‘deep-level processing’ and ‘surface-level processing’ were developed in F Marton and R Säljö, ‘On Qualitative Differences in Learning: I — Outcome and Process’ (1976) 46 *British Journal of Educational Psychology* 4; John Biggs and Catherine Tang, *Teaching for Quality Learning at University* (Open University Press, 3rd ed, 2007) 24–5; Noel Entwistle, *Styles of Learning and Teaching: An Integrated Outline of Educational Psychology for Students, Teachers and Learners* (John Wiley & Sons, 1981); Michael Prosser and Keith Trigwell, *Understanding Learning and Teaching: The Experience in Higher Education* (Open University Press, 1999); Paul Ramsden, *Learning to Teach in Higher Education* (Routledge, 1992).
- 9 Infosys, ‘Amplifying Human Potential: Education and Skills for the Fourth Industrial Revolution’ (Report, Infosys, 2016).
- 10 Carl Benedikt Frey and Michael A Osborne, ‘The Future of Employment: How Susceptible are Jobs to Computerisation?’ (2017) 114 *Technological Forecasting and Social Change* 254, 259, citing John Markoff, ‘Armies of Expensive Lawyers, Replaced by Cheaper Software’, *New York Times* (online), 4 March 2011 <http://www.nytimes.com/2011/03/05/science/05legal.html?_r=0>.
- 11 David Barker, ‘An Avalanche of Law Schools, 1989–2013’ (2013) 6 *Journal of the Australasian Law Teachers Association* 1; see also Council of Australian Law Deans, *Australia’s Law Schools* (4 January 2017) Studying Law in Australia <<https://cald.asn.au/slia/australias-law-schools/>>.
- 12 Law Society of New South Wales, ‘Future Prospects of Law Graduates: Report and Recommendations’ (Report, 2017) 6.
- 13 Urbis, ‘2016 Law Society National Profile: Final Report’ (Report, Law Society of New South Wales, August 2017) I, 2.

research will complement the work of lawyers in the medium term'.¹⁴ Over a decade ago, Justice Michael Kirby prophesied that artificial intelligence would

help lawyers to solve problems; to analyse questions; to get the statute and the common law right. Lawyers will speak to a computer and ask for an immediate analysis of the latest authority of the High Court of Australia on the duty of care in negligence. Instead of collapsing at the very sight of ... divided decisions ... a thinking machine will do in minutes the analysis that it would take a contemporary lawyer a thousand hours and countless cups of strong coffee to accomplish.¹⁵

We are not there yet, but this predicted degree of sophisticated analysis and critique is gaining momentum with the latest versions of artificially intelligent machines available.¹⁶

B 'Infobesity' and 'the chaos of information overload'¹⁷

This ease of publication results in legal researchers being presented with an incessant flow of facts and information. The very bulk of materials is overwhelming. It is estimated that in Australia there were only eight law journal titles being published in 1960,¹⁸ but by 2011 this number had increased to over 70.¹⁹ Meanwhile in the United States there was a still more extreme increase from 90 law journals in the mid-1930s to approximately 900 in 2009.²⁰ There are myriad layers of research materials containing legal content including —

- hardcopy sources consisting of books, journals, and other older non-digitised material accessible via library and other catalogues;
- electronic media (images, videos, ebooks) held in libraries and collections;
- commercial legal research databases originally produced by digitising the hardcopy sources such as encyclopaedias and digests, but now hyperlinked, reformatted and extended to include the bulk of full text journals and looseleaf services, as well as unreported and unauthorised cases;²¹

14 Frey and Osborne, above n 10, 267; see also Markoff, above n 10.

15 Justice Michael Kirby, 'A Law Libraries Love Affair' (2004) 12(4) *Australian Law Librarian* 7, 10–11.

16 Chris Weller, 'The World's First AI Lawyer Was Just Hired at a Law Firm', *Tech Insider* (online), 17 May 2016 <<http://www.techinsider.io/the-worlds-first-artificially-intelligent-lawyer-gets-hired-2016-5>>.

17 Svantesson, 'Improving Accessibility to Research Findings in Law', above n 6.

18 John Gava, 'Scholarship and Community' (1995) 16 *Sydney Law Review* 443, 459.

19 Dan Jerker B Svantesson, 'Truisms About the Australian Publishing Climate for Law Journal Articles, and Some Strategies to Cope; or "A Feminist Perspective on the Human Rights of Vegetarian Child-Soldiers in Outerspace"' (2011) 10(3) *Canberra Law Review* 4, 19.

20 John Doyle, 'The Law Reviews: Do their Paths of Glory Lead but to the Grave?' (2009) 10 *Journal of Appellate Practice and Process* 179, 180.

21 For example, LexisNexis and Westlaw.

- official government websites for legislation and case law (eg, the Office of the Queensland Parliamentary Council website, the Supreme Court Library Queensland's CaseLaw);²²
- Parliament and other government department websites providing access to public policy documents and statistics;²³
- legislation, case law and commentary held on the freely available Legal Information Institutes repositories;²⁴
- university and institutional repositories of academic papers (eg, SSRN,²⁵ QUT e-prints);²⁶
- organisational and pressure groups websites (eg, Amnesty International)²⁷ or community advocacy group sites (eg, Youth Advocacy Centre);²⁸
- specialised current awareness services (eg, BarNet Jade and Benchmark);²⁹ and
- public Search Content (including images and videos) accessible through web search engines such as Google, Google Scholar, Google Books, Google Maps, Google Translate, and knowledge-sharing sites such as Wikipedia.³⁰

Prior to the digital revolution, the most important legal resources needed for professional practice were commercial in nature. These commercial sources were edited and curated. There is now a whole range of valuable legal information outside the pay walls. There is overlap between the sources so the researchers only need to be able to use a selection of the materials well. With the free sources, researchers are depending on algorithms rather than expert human editing. Certainly, we are coming full circle in terms of understanding the requirement for data control. There are academics calling for a return to editorial curating and organisation to replace machine searching of raw electronic data.³¹ The Google search facilities will improve. Nevertheless, the content is generalist, not legal, and it is not professionally curated. These are public, not professional, search tools. Use of these services constitutes 'searching' not 'researching'.³² It is vital that lawyers understand the limits of the various layers of information available

22 Office of the Queensland Parliamentary Counsel, *Queensland Legislation* (4 January 2017) Queensland Government <<https://www.legislation.qld.gov.au/OQPCHome.htm>>; Supreme Court Library Queensland, *CaseLaw* <<http://www.sclqld.org.au/caselaw/>>.

23 For example, Parliament of Australia <<http://www.aph.gov.au/>>.

24 For example, Australasian Legal Information Institute <<http://www.austlii.edu.au/>>.

25 Social Science Research Network <<http://www.ssrn.com/en/>>.

26 Queensland University of Technology, *QUT ePrints* <<http://eprints.qut.edu.au/>>.

27 Amnesty International <<https://www.amnesty.org.au/>>.

28 Youth Advocacy Centre <<http://www.yac.net.au/>>.

29 BarNet Jade <<https://jade.io/>>; Benchmark <<https://benchmarkinc.com.au/web/>>.

30 Terry Hutchinson, 'Valé Bunny Watson? Law Librarians, Law Libraries, and Legal Research in the Post-Internet Era' (2014) 106 *Law Library Journal* 579, 587–8.

31 Svantesson, 'Improving Accessibility to Research Findings in Law', above n 6.

32 Prensky, *From Digital Natives to Digital Wisdom*, above n 7, 165–71.

to them and are able to effectively critique, assess, analyse and synthesise as well as judge the relevance and authority of any information retrieved.

C Technology Transforming Reading Styles and Inculcating Digital Habits

Socrates was reportedly concerned that writing, which was replacing the oral tradition, would lead to a ‘superfluity of knowledge and its corollary — superficial understanding’.³³ Socrates’ concerns of shortcomings in understanding and reasoning because of the change to print were unfounded. The fears of risks associated with a change to digital media will no doubt also prove incorrect.

Society has moved from a print tradition to the digital age, which is characterised by ‘visual images and massive streams of digital information’.³⁴ As a result, law students and practising lawyers are exhibiting changed reading patterns.³⁵ Lateral use is becoming common so that readers are moving between layers of materials simultaneously — texts, legislation, website screens and hardcopy. The tendency is to multitask and use brief formats such as texts and soundbites, which require a shorter attention span and less reading time. This ‘cut and paste mentality’ is time efficient, although it can easily lead to over-dependence on the work of others and a lack of deep reflection on the issues. Information is gathered through ‘a multistep process’ that has been described as ‘grazing, a deep-dive, and a feedback loop’.³⁶ The modern reader scans an immense amount of information. If a concept appears relevant then the reader dives more deeply and reads more extensively on the topic. We can request or provide feedback easily on what we read. Sometimes these comments are meaningful but often the web discussions lack depth. So the question then becomes whether the modern brain is becoming directed only towards the short term — ‘to jumping from screen to screen and topic to topic — and so unable to concentrate on a single topic for a length of time’.³⁷

Twenty years ago, Justice Kirby was warning that this phenomenon could well be a challenge for lawyers in practice, for example those endeavouring to

33 Maryanne Wolf, *Proust and the Squid: The Story and Science of the Reading Brain* (HarperCollins, 2007) 76.

34 Maureen Hall, ‘The Benefits of Deep Reading: Neuroplasticity in Action’ on *Changing Lives, Changing Minds: A Changing Lives through Literature Blog* (21 January 2009) <<https://cltlblog.wordpress.com/2009/01/21/the-benefits-of-deep-reading-neuroplasticity-in-action/>>, quoting *ibid* 19.

35 John Palfrey, ‘Smarter Law School Casebooks’ in Edward Rubin (ed), *Legal Education in the Digital Age* (Cambridge University Press, 2012) 106, 112–14.

36 *Ibid* 113.

37 David O’Brien, ‘Introductory Remarks’ (Speech delivered at the UQ Law School Prize Giving, Customs House, Brisbane, 20 May 2015) 7 <<https://law.uq.edu.au/files/27353/UQ-Law-School-Prize-Giving-speech-David-OBrien.pdf>>; Sheila Keegan, ‘Digital Technologies Are Re-Shaping Our Brains: What Are the Implications for Society and the Research Industry?’ (2012) 15 *Qualitative Market Research: An International Journal* 328.

communicate effectively with jurors in long and complex trials.³⁸ We need to consider the long term effects if the profession itself ceases to have the time or the inclination to read and think about the law, if ‘shallow thinking becomes the norm’ and, as Keegan warns, data becomes ‘confused with insight’.³⁹ The skill needed in the new environment is the ability ‘to deep and shallow think simultaneously; to power browse and, at the same time be reflective’.⁴⁰

D The Rise of Interdisciplinarity

There has been an expansion of legal research methods beyond doctrinal research. Technology has thrown up the possibility of new research methods based on content and discourse analysis of social media and video. Because of law’s practice oriented foundations, there has been limited reflection on the nature of legal research and its methods. Legal academics are increasingly working in interdisciplinary teams and combining doctrinal research (centred on the critical analysis of cases and legislation) with the socio-legal and empirical methods used by social scientists. They are mixing the internal perspectives of the trained legal professional examining the law with the external discipline perspectives used by the social scientists.⁴¹ They are reflecting and theorising on the process. Some academics examining legal research methods⁴² are arguing that doctrinal research examining the law (Bartie’s doctrinal core) has less significance in the current environment than research which includes evidence gathered using interdisciplinary methods.⁴³ So in addition to the challenges posed by increasingly sophisticated algorithms and the chaos of ‘infobesity’, many within the legal discipline are questioning the very worth, value and skills involved in doctrinal research.⁴⁴

E University Quality Agendas and Academic Publishing

The international quality research agendas within the universities are another factor in the change cycle.⁴⁵ Australia’s national research evaluation framework,

38 Justice Michael Kirby, ‘Democracy and the Law: Delivering Justice in a Democracy III — The Jury of the Future’ (Paper presented at the Australian Bar Association Conference, Dublin, 9 July 1998) <http://www.hcourt.gov.au/assets/publications/speeches/former-justices/kirbyj/kirbyj_dublin1.htm>.

39 Keegan, above n 37, 343.

40 Ibid.

41 Theunis Roux, ‘Judging the Quality of Legal Research: A Qualified Response to the Demand for Greater Methodological Rigour’ (2014) 24 *Legal Education Review* 173, 177; Terry Hutchinson, *Researching and Writing in Law* (Thomson Reuters, 4th ed, 2018) 126.

42 See generally Mark van Hoecke (ed), *Methodologies of Legal Research: Which Kind of Method for What Kind of Discipline?* (Hart Publishing, 2011).

43 Susan Bartie, ‘The Lingering Core of Legal Scholarship’ (2010) 30 *Legal Studies* 345, 351–2; see also Svantesson, ‘Truisms about the Australian Publishing Climate’, above n 19.

44 See generally van Hoecke, above n 42.

45 See, eg, in Australia the ERA: Australian Research Council, *Excellence in Research for Australia* (20 February 2017) <<http://www.arc.gov.au/excellence-research-australia>>.

'Excellence in Research for Australia' (ERA), aims to evaluate research activity using international quality benchmarks.⁴⁶ Student or practitioner textbooks are not considered 'quality' research outputs, and only scholarly books are 'rewarded' in the present system. This may well change in the future if the criteria develop to include 'impact factors'. Texts may receive additional status when viewed through the prism of research 'impact'. Publishers on the other hand are hesitant to publish scholarly texts because they have limited markets and lower commercial value. In addition, Australian legal academics are being encouraged to publish for international interdisciplinary markets rather than national legal markets. Though the judges almost certainly access scholarly sources,⁴⁷ the diffuse and sometimes esoteric writing accepted for publication in the refereed international journals cannot necessarily replace a succinct doctrinal synthesis of local Australian law that is accessible in a quality text. Unless there is some solution to this impasse, and academics gain acknowledgement and esteem for their endeavours, the logical result of these market forces will be that there will be fewer texts available for the local professional market. Up-to-date texts are required as a shortcut so that both practitioners and students have access to a synthesis of the doctrine of the law.

F The Implications of Technological Change for Legal Education and the Law School Curriculum

All of these developments are pointing to a need for enhanced training in legal research and critical thinking skills. The law school curriculum in Australia is still constrained by needing to incorporate the Priestley 11, a list of substantive legal subject areas adopted in 1992, in the law degree.⁴⁸ However, the trend is changing to focus on the Threshold Learning Outcomes (TLO) which were formulated by the Australian Learning and Teaching Council (ALTC) in 2010.⁴⁹

46 Ibid.

47 See the studies by Russell Smyth: Russell Smyth, 'Trends in the Citation Practice of the Supreme Court of Queensland Over the Course of the Twentieth Century' (2009) 28 *University of Queensland Law Journal* 39; Russell Smyth, 'What Do Intermediate Appellate Courts Cite? A Quantitative Study of the Citation Practice of Australian State Supreme Courts' (1999) 21 *Adelaide Law Review* 51; Russell Smyth, 'The Authority of Secondary Authority: A Quantitative Study of Secondary Source Citations in the Federal Court' (2000) 9 *Griffith Law Review* 25; Russell Smyth, 'Other than "Accepted Sources of Law"?: A Quantitative Study of Secondary Source Citations in the High Court' (1999) 22 *University of New South Wales Law Journal* 19; Russell Smyth, 'What Do Judges Cite? An Empirical Study of the "Authority of Authority" in the Supreme Court of Victoria' (1999) 25 *Monash University Law Review* 29; Russell Smyth, 'Citation of Judicial and Academic Authority in the Supreme Court of Western Australia' (2001) 30 *University of Western Australia Law Review* 1; Russell Smyth, 'Academic Writing and the Courts: A Quantitative Study of the Influence of Legal and Non-Legal Periodicals in the High Court' (1998) 17 *University of Tasmania Law Review* 164.

48 *Legal Profession Uniform Admission Rules 2015* (NSW) sch 1; see also discussion in Anna Huggins, 'Incremental and Inevitable: Contextualising the Threshold Learning Outcomes for Law' (2015) 38 *University of New South Wales Law Journal* 264.

49 Sally Kift, Mark Israel and Rachael Field, 'Bachelor of Laws: Learning and Teaching Academic Standards Statement' (Australian Learning and Teaching Council, December 2010) 9–10.

This list was subsequently endorsed by the Council of Australian Law Deans.⁵⁰ The main TLOs are knowledge, ethics and professional responsibility, thinking skills, research skills, communication and collaboration, and self-management.⁵¹

There have been recent reviews of legal training in both the United Kingdom and the United States. The 2013 UK report, *Setting Standards*, recommended additional focus on legal research and digital literacy skills curriculum and testing, with consideration being given to the ‘BIALL legal literacy and SCONUL outcomes statements’.⁵²

There was also a focus on critical thinking skills and reflection and the ‘higher level and meta-competencies that characterise professional work’:⁵³

These high level capabilities include the development of composite behaviours like ‘professionalism’, critical thinking skills and capacities for self-evaluation and reflection. The latter are central to ‘reflective practice’ and need to be addressed throughout the continuum of formal training and on into CPD.⁵⁴

The 2014 American Bar Association Task Force on the Future of Legal Education also calls for additional skills training: ‘The balance between doctrinal instruction and focused preparation for the delivery of legal services needs to shift still further toward developing the competencies and professionalism required of people who will deliver services to clients’.⁵⁵ The legal research training paradigm itself has changed — from a focus on ‘how to find materials’ to ‘careful evaluation of the wealth of information each search yields’.⁵⁶ We have moved through cycles in legal research skills training. In the first cycle, the emphasis was on teaching how to use the research sources — an approach directed to teaching legal bibliography.⁵⁷ So in this phase students were taught how to use specific case citators or legal digests. The next stage was to look at the legal research process — a method

50 Susanne Owen and Gary Davis, ‘Project Final Report: Learning and Teaching in the Discipline of Law: Achieving and Sustaining Excellence in a Changed and Changing Environment’ (Report, Australian Learning and Teaching Council, Council of Australian Law Deans, 2009) 83; Council of Australian Law Deans, ‘The CALD Standards for Australian Law Schools: As Adopted 17 November 2009 and Amended to March 2013’ (Standards, 17 November 2009) <<https://cald.asn.au/wp-content/uploads/2017/11/CALD-Standards-As-adopted-17-November-2009-and-Amended-to-March-2013.pdf>>.

51 Kift, Israel and Field, above n 49, 10.

52 Legal Education and Training Review Independent Research Team, ‘Setting Standards: The Future of Legal Services Education and Training Regulation in England and Wales’ (Final Report, June 2013) 275 [7.15]; see also at ix (on Legal Services Education and Training (LSET)); at 45 (on British and Irish Association of Law Librarians (BIALL) and Society of College, National and University Libraries (SCONUL)) <<http://www.lettr.org.uk/the-report/>>.

53 Ibid 274.

54 Ibid 274–5; see also at 55 (on continuing professional development (CPD)).

55 American Bar Association Task Force on the Future of Legal Education, ‘Report and Recommendations’ (January 2014) 3 <http://www.americanbar.org/news/abanews/aba-news-archives/2014/01/aba_legal_education.html>.

56 Ellie Margolis and Kristen E Murray, ‘Say Goodbye to the Books: Information Literacy as the New Legal Research Paradigm’ (2012) 38 *University of Dayton Law Review* 117, 119.

57 See, eg, Enid Campbell, Lee Poh-York and Joyce Tooher, *Legal Research: Materials and Methods* (LBC Information Services, 4th ed, 1996); Steven M Barkan, Roy M Mersky and Donald J Dunn, *Fundamentals of Legal Research* (Foundation Press, 9th ed, 2009).

espoused by the Wrens.⁵⁸ In this cycle the approach was to teach, for example, ‘how to find judicial consideration of cases’ as a process rather than being tied to a specific resource. A third view is unfolding.

Now legal educators are being encouraged to concentrate on teaching information literacy rather than simply research techniques. Margolis and Murray define information literacy as the ability to ‘identify what information is needed, understand how the information is organized, identify the best sources of information for a given need, locate those sources, evaluate the sources critically, and share that information’.⁵⁹ Using general search engines, ‘it is almost impossible to run a ... search that yields no results’.⁶⁰ Some educators even suggest that one way of counteracting the infobesity in legal materials is for academics to change the way they teach, to flip the method used previously so they move away from ‘finding the law’ to dealing effectively and critically with the results that the students receive. This may require more scoping of the skills levels of students entering the class, then encouraging the students to jump in to the research and locate material, with the real learning taking place during the analysis and evaluation of the results (including the negative outcomes or ‘Googlenopes’)⁶¹ of their efforts.⁶² So the skills embedded in Course Learning Outcomes — critical thinking, problem solving, reflection — have always been important. In the current context, they have additional importance.

III THE INTERVIEWS

Increasingly sophisticated computerisation of legal and other work, the challenges of technology driven information overload, new reading styles, interdisciplinarity, university quality research agendas, publishing imperatives, and the changing emphasis in legal training to cater for practical skills rather than imparting substantive knowledge, are the forces providing the context for this study. Working within this broader context, this article analyses the themes and unexpected concerns which arose during discussions with a small but experienced group of research academics, publishers, librarians, and judges from Australia, the United States and elsewhere.

58 Christopher G Wren and Jill Robinson Wren, ‘The Teaching of Legal Research’ (1988) 80 *Law Library Journal* 7; Christopher G Wren and Jill Robinson Wren, ‘Reviving Legal Research: A Reply to Berring and Vanden Heuvel’ (1990) 82 *Law Library Journal* 463, 466; Christopher G Wren and Jill Robinson Wren, *The Legal Research Manual: A Game Plan for Legal Research and Analysis* (A-R Editions, 2nd ed, 1986).

59 Margolis and Murray, above n 56, 120, quoting University of Idaho, *Information Literacy* <http://www.webpages.uidaho.edu/info_literacy/>.

60 Margolis and Murray, above n 56, 154.

61 A ‘Googlenope’ is a search using Google that has zero results. ‘Once a Googlenope is discovered and written about, it is no longer a Googlenope’: Gene Weingarten, ‘Zero-Based Journalism’, *The Washington Post* (online), 27 May 2009 <<http://www.washingtonpost.com/wp-dyn/content/article/2007/05/23/AR2007052301290.html>>.

62 Margolis and Murray, above n 56, 154.

The 15 interviews spanned a twelve-month period from April 2014 to May 2015. The aim was to engage the interviewees in a meaningful hour-long conversation on doctrinal legal research, the effects of technology and the internet on research methods, and any ramifications on training for lawyers. Two of the interviews were conducted via Skype. The interviews were recorded, transcribed by a research assistant, and then drafts were provided for the interviewees. Those interviewed include a number of the ‘research doyens’ of the legal profession both in Australia and elsewhere — Asia, the United Kingdom and the United States. The group consists of seven women and eight men. With one exception, the group had completed law degrees. There were six law librarians and library administrators, three Queensland based judges from various court jurisdictions, three law professors, and three law publishers. A number of the participants were identified by chain referral (or snowball) sampling.⁶³ The participants in the study were chosen because of their expertise, and their skills and interest in legal research. Given their experience and discernment of the challenges and opportunities afforded by the changing research environment, their views warrant consideration. Each was asked to reflect on their individual research experience over the last decade, and then to visualise the future legal research landscape. Even more importantly, these experts had the opportunity to muse on whether any current changes in research method were likely to have wider ramifications for the practice of legal research.

Overall, there was consensus on the advantages of the new technological environment with ‘real time’⁶⁴ and instantaneous availability of vital legal sources such as judgments and legislation. There was genuine excitement at future possibilities and the facility to rapidly interrogate extensive databases.⁶⁵ As one publisher commented: ‘in the future it’s going to be a technology driven field ... it’s not the Boolean logic now ... but ... next generation technology ... consisting of “discovery service platforms”’.⁶⁶ There was a sense of amazement in reflecting on the rate and amount of change that had taken place already, especially in the last decade of the 20th century. Recalling the rate of technical change occurring in the Australian legal workplaces in the mid-1990s, there were warnings about how crucial it is to keep abreast of technology and to ride the crest of change: ‘I think being in the workplace in the nineties was a good thing because ... if you were in the workplace in the nineties you saw online databases and the search tools come in. So you learned them. But you also understood hard copy.’⁶⁷

The issues of concern to this group included:

- the use of ‘unreported’ case law and the future role for the authorised reports in the courts;
- the yearning for the physicality of text;

63 Alan Bryman, *Social Research Methods* (Oxford University Press, 5th ed, 2016) 415–16, 696.

64 Interview no 4 with academic researcher.

65 Interview no 3 with librarian.

66 Interview no 2 with publisher.

67 Interview no 13 with judge.

- the use of undisclosed algorithms underlying simplistic ‘Google box’ interfaces being used in commercial databases and library search systems;
- the need for revised research methods to adapt to the new environment; and
- the effect of all these developments on the way lawyers reason in relation to principle and facts, and the possibility that this changing research environment posed a threat to the evolution of legal rules and principles.

The next section of this article discusses each of these in turn.

A Law Reporting: Unreported v Authorised Reports

The interviews uncovered a robust debate on the viability and role of the authorised reports. Two of those interviewed held strong views on the inadequacies of the authorised reporting system, and the ability of the services to provide practitioners with timely access to the most important court decisions. The others interviewed, including the judges, either tacitly approved of the system or were supportive. This is unsurprising given the history of law reporting in Australia. There have been past debates over free access to the authorised reports, with the Competition Policy Review of the *Council of Law Reporting Act 1969 (NSW)* in 2000, and calls for the development of a national system of publishing authorised law reports including ‘cooperation in the establishment, and maintenance of a single website through which all state and federal “authorised” reports can be accessed’.⁶⁸

Mark Leeming SC argued that there is confusion resulting from the different text versions of cases being distributed by various publishers, and has suggested a two-step process so that important judgments are made available immediately as ‘reportable’ and then a separate edited ‘revised for publication’ version should be placed on an official website in due course.⁶⁹ AustLII has attempted to remedy this situation. Under the auspices of an Australian Research Council funded Industry Linkage Grant project ‘[t]o determine how courts and tribunals outside the existing system of authorised reports can best ensure that their decisions published via the internet have authority and integrity’,⁷⁰ AustLII implemented a ‘Signed by AustLII’ designation for cases on its website. This is an attempt to flag one version as correct. Decisions with this designation are identified as

68 Justice Geoff Lindsay, ‘The Future of Authorised Law Reporting in Australia’ (Paper presented at the Australian Law Librarians Association Lunch Time Meeting, NSW Bar Association Common Room, 11 June 2013) 9; Justice Geoff Lindsay, ‘The Unfolding Future of Authorised Law Reporting in Australia’ (Paper presented at the Australian Law Librarians Association Annual Conference, Sydney Town Hall, 25 September 2013) [22]–[24]. See Attorney General’s Department (NSW), ‘Report of the Competition Policy Review of the *Council of Law Reporting Act 1969*’ (Report, 1999) <http://www.lawlink.nsw.gov.au/report%5Clpd_reports.nsf/pages/cpr_report>; Attorney General’s Department (NSW), ‘National Competition Policy Review Discussion Paper: *Council of Law Reporting Act 1969*’ (Discussion Paper, 22 December 1999) <http://www.lawlink.nsw.gov.au/report%5Clpd_reports.nsf/pages/clr_contents>.

69 Mark Leeming, ‘Future of Authorised Law Reporting in Australia’ (Speech delivered to the Consultative Council of Australian Law Reporting, Brisbane, 2 August 2012) 6–14.

70 Australasian Legal Information Institute, ‘2014 Year in Review and AustLII Foundation Limited Annual Report’ (Annual Report, Australasian Legal Information Institute, 2014) 26.

authenticated by the relevant court. This process has been ‘accepted’ by eight courts and tribunals including the Federal Circuit Court of Australia, six South Australian courts and one Western Australian tribunal.⁷¹

From an historical perspective, there is a similarity between the foundations of the authorised reports in England and the law reporting landscape in the 21st century.⁷² Back in the 1860s, practitioners had access to an eclectic range of case reports from a number of legal journals, newspapers and barristers’ notes. These constituted ‘an unworkable jumble’ of ‘cases which explicitly considered and clarified the law’ and ‘cases which were uncontested, cases which were poorly argued or cases where the judgment merely sought to paraphrase the existing law in an inexact way because it was uncontroversial in that case’.⁷³ The judiciary’s response was to establish the Incorporated Council of Law Reporting for England and Wales in 1902, and this is the model adopted in all the jurisdictions in Australia.

Seminal judgments were identified, edited and subsequently reported by the Incorporated Councils. The commercial publishers invariably provided the important reports faster than the official authorised version. In time, summaries and full text of selected ‘unreported’ judgments were available on subscription. Judgments were placed on the court sites. This has resulted in a situation where there is speedy access to most judgments but there is little assistance to identify reliable authority. The judgments available are ‘raw’ with at best a few catchwords and subject headings added by the judge or the judge’s associate. Those interviewed expressed concern about this overload.

What has been the judiciary’s response? The Australian courts are once again publishing Practice Directions demanding the use of the authorised reports by counsel appearing before them.⁷⁴ The Queensland Supreme Court Practice

71 See, eg, Federal Circuit Court of Australia, *Practice Direction No 1 of 2015 — Citations of Decisions of Australian Courts and Tribunals – AustLII*, 3 April 2015.

72 John D McKenna, ‘Citation of Authority’ (Paper presented at the Bar Association of Queensland Conference, Gold Coast, 8 March 2014) 2 <<http://queenslandreports.com.au/docsqlr/2014-09-bar-association-citation-of-authority.pdf>>.

73 Ibid. See also W T S Daniel, *The History and Origin of the Law Reports Together with a Compilation of Various Documents Shewing the Progress and Result of Proceedings Taken for their Establishment and the Condition of the Reports on the 31st of December, 1883* (William Clowes and Sons, 1884).

74 Recent Practice Directions in all court jurisdictions include: Federal Court of Australia, *Practice Note CM 2 — List of Authorities, Citation of Cases and Legislation for Proceedings Generally*, 14 August 2012; Supreme Court of New South Wales, *Practice Note SC Gen 20 — Citation of Authority*, 15 May 2015; Supreme Court of Queensland, *Practice Direction No 16 of 2013 — Citation of Authority* (2013) 2 Qd R 542; District Court of Queensland, *Practice Direction No 11 of 2013 — Citation of Authority*, 18 October 2013; Planning and Environment Court, *Practice Direction No 12 of 2013 — Citation of Authority*, 21 October 2013; Supreme Court of South Australia, *Practice Direction 5.6 — Lists, Citations & Copies of Authorities*, 4 September 2006; Supreme Court of Tasmania, *Practice Direction No 4 of 2009 — Citation of Judgments*, 11 December 2009; Supreme Court of Victoria, *Practice Note SC Gen 3 — Citation of Authorities and Legislation* (2017) 49 VR 533; Supreme Court of Western Australia, *Practice Direction 2.1 — Outlines of Submissions, Lists of Authorities and Copies of Authorities for Use in Civil and Criminal Interlocutory Hearings, Trials and Appeals*, 2009. See also Incorporated Council of Law Reporting for the State of Queensland, *Practice Directions*, Queensland Reports <<http://www.queenslandreports.com.au/authorised/practice-directions/>>.

Direction cautions practitioners to be selective in their use of authority.⁷⁵ The Practice Direction set out six rules for practitioners appearing in court:

- (a) A citation of the judgment from a set of authorised reports is to be preferred.
- (b) If no such report is available, a citation of the judgment from another set of accredited reports is to be preferred.
- (c) If no such reports are readily available, an unreported version of the judgment may be cited.
- (d) The medium neutral citation of a judgment (if any) should be provided.
- (e) The particular passages in the judgment which are relied upon should be identified.
- (f) Reference should also be made to any subsequent judgment which has doubted, or not followed, the cited judgment in a relevant respect.⁷⁶

Despite being mandated for use in the courts, the authorised reports of most Australian jurisdictions are only available in hard copy by subscription or electronically via the commercial online services.⁷⁷ Some of the councils have been proactive by establishing websites of recent decisions selected for possible inclusion in the authorised reports series. In Queensland, the site is arranged by subject and contains the case summary and its appeal status. The catchwords (and presumably the subject headings) are based on those used in *The Australian Digest*.⁷⁸ Interestingly, the Council of Law Reporting for New South Wales is in the process of developing another catchword taxonomy, so there is no consistency between the jurisdictions at this point.⁷⁹ The Queensland site states that '[f]rom about 800 judgments delivered every year, only about 60–80 are selected for reporting',⁸⁰ and the New South Wales site also is selective in its coverage: 'Of the thousands of judgments delivered by the courts each year, less than 10 percent are reported'.⁸¹ There are definitely more opportunities for improved access and cooperation in relation to subject headings to enhance access and coverage of important Australian cases in the future.

75 McKenna, above n 72, 2.

76 Supreme Court of Queensland, *Practice Direction No 16 of 2013 — Citation of Authority* (2013) 2 Qd R 542.

77 For Queensland from 1974 via LexisNexis: Incorporated Council of Law Reporting for the State of Queensland, *Accessing the Reports*, Queensland Reports <<http://www.queenslandreports.com.au/reports/accessing-the-reports/>>; See also the new website *Queensland Judgments: Supreme Court Library Queensland*, *Queensland Judgments* (22 March 2018) <<https://www.queenslandjudgments.com.au/>>; Victoria via BarNet Jade, *Victorian Reports* (12 February 2018) <<http://victorianreports.com.au/>>; New South Wales via LexisNexis or Thomson Reuters: Council of Law Reporting for New South Wales, *Subscribe Online* (12 February 2018) NSW Law Reports <<https://nswlr.com.au/subscribe-online>>.

78 Incorporated Council of Law Reporting for the State of Queensland, *Contents*, Queensland Reports <<http://www.queenslandreports.com.au/reports/content/>>;

79 Council of Law Reporting for New South Wales, *Special Projects* (12 February 2018) NSW Law Reports <<https://nswlr.com.au/about-special>>.

80 Incorporated Council of Law Reporting for the State of Queensland, *Contents*, above n 78.

81 Council of Law Reporting for New South Wales, *NSW Law Reports* (12 February 2018) NSW Law Reports <<https://nswlr.com.au/about-reports>>.

The group interviewed expressed support and recognition for curation as the prominent role of the authorised reports:

There is a selection process, there is a classification process, there is the curation, there is the systemic, academic and theoretical pursuit given to people who prepare authorised reports so they don't over cite, they don't collate fifteen of the same decisions, they'll keep one and they'll [use it] over time. So you can have as a reliable body of record, it will generally pick the most important cases from particular jurisdictions and give you a really useful conspectus of what's going on.⁸²

It is accepted that at times the unreported judgments are the only sources of pertinent information for cases dealing with 'obscure statutory provisions' or 'particular words in contracts', or for quantum or sentencing decisions.⁸³ According to John McKenna QC, contrary to commonly held belief that 'the most recent authority is the most authoritative', the reality is that unreported judgments are 'the last resort'.⁸⁴ This of course depends on which court in the hierarchy has handed down the decision. Decisions from the High Court and state courts of appeal would be regarded most highly by all practitioners even if not yet reported in the authorised report series. Indeed practitioners and scholars would be concerned to know early results of all the High Court decisions including special leave applications.

The authorised reports are not without their critics. The publications can be eclectic in their content, there are always issues of slower publication of materials caused by editorial processes and the series generally do not include decisions from the lower court hierarchies:

In NSW you are almost at the point where you might as well throw all the cases in the air and catch 100 random ones and put those in the authorised reports and then try and convince people that these authorised reports are important enough and have any sort of significance.⁸⁵

Despite the court protocols, 'if you look at the cases that people are actually using, they are not using the authorised reports'.⁸⁶

There was acknowledgement of the important role of medium neutral citations in ensuring the ability to provide pinpoint references within the judgments, and in allowing users to be able to access multiple versions of a decision:⁸⁷

I still cite a report that is unreported in the sense that it's just on a court's webpage or AustLII if that's a relevant decision. But I make sure I put in the authorised report citation for all of the cases that come from authorised sets of reports in order to vindicate the primacy that we are giving to them.⁸⁸

82 Interview no 12 with publisher.

83 McKenna, above n 72, 6.

84 Ibid 4–5.

85 Interview no 10 with academic.

86 Ibid.

87 Justice L T Olsson, *Guide to Uniform Production of Judgments* (Australian Institute of Judicial Administration, 2nd ed, 1999).

88 Interview no 14 with judge.

There were concerns advocates appearing in court are citing too many recent irrelevant unreported cases rather than the cases containing the main principles of law, which normally would be included in the authorised reporting series:

Judges have significant case management challenges. ... So they still place value in a curated set of reports. So what they want, what they continue to value is things like authorised reports where someone of some standing has selected decisions of importance and where those have been quality controlled and what's passed to them in terms of an authority is a restricted set of content.⁸⁹

Mandating authorised report citations is one approach. Another approach is the establishment of a uniform case law website for all the authorised reports, possibly modelled on the system in place in the United Kingdom.⁹⁰ As mentioned earlier, the Consultative Council of Australian Law Reporting and AustLII are already discussing options.⁹¹ Another suggestion is to better organise the rich sources of data now freely available. Lee argues that expensive indexing is not necessary because the new versions of '[c]ognitive computing systems' have the capacity to 'learn and interact naturally with people to extend what either man or machine could do on their own'.⁹² The systems therefore 'have the ability to identify significant patterns in the massive amounts of unstructured data', so that the computers can 'mine the unstructured data of case law, statutes, regulations, and other sources of law or legal information for relevant correlations and connections'.⁹³ We need alternate strategies in the interim until this technology is reliable.

B Physicality of the Text

Several of those interviewed highlighted the importance of the 'physicality' of research text, whether case law, legislation or commentary.⁹⁴ There was an appreciation of the importance of the printed word as enhancing understanding compared to the impact of a fleeting electronic image.⁹⁵ Some in the group

89 Interview no 11 with publisher.

90 See Incorporated Council of Law Reporting for England and Wales, *ICLR.3* <<https://www.iclr.co.uk/>>.

91 Leeming, above n 69.

92 Kevin P Lee 'The Citizen Lawyer in the Coming Era: Technology is Changing the Practice of Law, but Legal Education Must Remain Committed to Humanistic Learning' (2013) 40 *Ohio Northern University Law Review* 1, 8, quoting IBM Research, *Cognitive Computing: Artificial Intelligence Meets Business Intelligence* <<http://web.archive.org/web/20130801111541/http://www.research.ibm.com/cognitive-computing/index.shtml>>.

93 Lee, above n 92, 8–9.

94 Interview nos 1 (librarian), 5 (librarian), 6 (librarian), 7 (librarian), 12 (publisher), 13 (judge), 14 (judge).

95 Interview nos 5 (librarian), 8 (librarian). See also Gemma Walsh, 'Screen and Paper Reading Research — A Literature Review' (2016) 47 *Australian Academic & Research Libraries* 160; Nancy M Foasberg, 'Student Reading Practices in Print and Electronic Media' (2014) 75 *College & Research Libraries* 705; Anne Mangen, Bente R Walgermo and Kolbjørn Brønnick, 'Reading Linear Texts on Paper Versus Computer Screen: Effects on Reading Comprehension' (2013) 58 *International Journal of Educational Research* 61; Ferris Jabr, 'The Reading Brain in the Digital Age: The Science of Paper versus Screens', *Scientific American* (online), 11 April 2013 <<https://www.scientificamerican.com/article/reading-paper-screens/>>.

spoke of the importance of being able to browse the hardcopy resources. One commented, ‘I wander through and have a look at them in order to get ideas. So that’s something that works pretty effectively for me. It’s just because I sort of only come up with ideas by ... random looking through and I am a big fan of serendipity’.⁹⁶ Another noted that being able to use the Moys library classification system effectively was intrinsic to the process:⁹⁷ ‘I love the idea of a library and the ability to browse. The physicality of libraries is a really important thing and I worry that experience of physical, the spatial experience of being in the library is going to be lost’.⁹⁸ They valued ‘interacting with the text’.⁹⁹

Textbooks are research shortcuts providing summaries and scholarship dealing with the development of an area of law to a certain date:

I think the treatise and secondary material are a critical part of legal research. ... It assembles together material, the cases, the principles, ... and you can see the cases that might be relevant to a particular area. If we lose that then there’s a huge efficiency lost.¹⁰⁰

One thing I’ve noticed is ... they all understand online research tools but if I say to them go and find something on a certain topic they often simply think of online. So I’ll say ‘what about a textbook?’ and they will say ‘what do you mean?’ and I will say ‘well, you know the question I’ve asked you, someone may have already done the work on it. Go and get me a textbook.’¹⁰¹

Some spoke of the value of texts when researching¹⁰² and the need for an expanded range of treatises, particularly on narrow issues and specialised areas.¹⁰³ It was pointed out that older cases are sometimes not available electronically but are still good law, and often those cases are not available online but can be picked up through the sophisticated analysis and discussion in the textbooks:¹⁰⁴ ‘I find because of my familiarity with textbooks or commentaries in areas where I’ve done a lot of work I’m often able to turn up something that is a starting point for research ... I think there’s still a role in textbooks.’¹⁰⁵

Physicality was important to the researchers because it provided context for the information they were using to a greater extent than that provided by electronic snippets of information: ‘For some reason they seem to miss the context. The print conveys a lot more context just in its form than the online equivalent does at this time.’¹⁰⁶

96 Interview no 9 with academic.

97 Interview no 12 with publisher. The Moys classification system is an expansion of the Dewey system specifically created for use in large law libraries.

98 Ibid.

99 Ibid.

100 Ibid.

101 Interview no 13 with judge.

102 Interview nos 6 (librarian), 8 (librarian), 12 (publisher), 13 (judge), 14 (judge).

103 Interview nos 8 (librarian), 13 (judge).

104 Interview no 13 with judge.

105 Interview no 14 with judge.

106 Interview no 5 with librarian.

For that reason too ebooks were viewed as having limitations to the serious researcher who wanted to read and analyse the text in depth:

I still get a lot of young researchers doing ... PhDs or just started out as a researcher in the faculty — if they have to access a book and they really have to delve into it and really read the whole thing and scrutinise it they prefer the hard copy to an ebook and this isn't a generational thing ...¹⁰⁷

Therefore there was a sense of the need for reflective reading of the text and that, at times, this is better accomplished using hardcopy.

C Concerns about Commercial Publishers' Search Interfaces Mimicking Google

The group acknowledged the 'gradual improvement of natural language searching and the possibility of using intelligent robotics'.¹⁰⁸ Nevertheless, there was concern about the risks in the new environment including the 'control and accuracy of algorithms, finding nothing and blank or zero results, currency and transparency'.¹⁰⁹ The law librarians expressed alarm about the increasing use of the 'Googlebox' in legal databases as a basic search tool:¹¹⁰

I don't want everything, don't give me everything, you know, don't give me the briefs of the cases, don't tell me what's in newsletters published by non-legal publishers, right, or newspapers ... and so the feedback that I know that West and Lexis have gotten on their new platforms from those of us who've been around for a long time is just this right — fine to do it this way for somebody who doesn't know what the hell they are doing but don't make all of us, you know some of us are more sophisticated than that and we know more what we are doing and so we want a sophisticated way to use your ... [system].¹¹¹

Ideally, researchers approach these databases with a refined idea of the research question, the pertinent legal terms and the likely place where they might locate the answers. This placed the researcher in control of the search with a detailed understanding of the extent of the data being interrogated. The 'Googlebox' signifies a basic change in search technique. Without setting out with knowledge of the materials, the search parameter and the possible outcomes, the 'Googlebox' is not explicit in what areas it is searching over.

[T]he technology makes it easier for them, it means they can find stuff ... But because they do not understand how things fit together, they don't understand about using indexes, it means they often can't navigate certain places or they don't know what's missing ... I think it makes basic research easier but there often

107 Interview no 1 with librarian.

108 Interview no 12 with publisher.

109 Ibid.

110 The 'Googlebox' is an empty search box in a web browser, which allows for natural language searching rather than precise terms connected in Boolean search strings.

111 Interview no 6 with librarian.

seems to be gaps in their knowledge which comes from the fact that they've come from a technology route ...¹¹²

The system is throwing up a multitude of responses. This throws more responsibility back onto the researcher. There was concern with the current situation:

So I find it scary, the circumstance we are in now, very discombobulating I guess I would say because it's really turned research into [a] different place ... and you know students use the words filter all the time and those are the words used on the platforms and you know I don't think of them as filters, I think of them as 'I want statutes' or 'I want federal statutes' ... or whatever. And so I just think it's causing those of us who are teaching research to have to think about research in a very completely upside down way ...¹¹³

D Revising Research Methods to Adapt to New Environments

Researchers need to adapt their problem solving techniques, and the conceptual analysis of text required for quality doctrinal scholarship, to cater for the new database capabilities and deficits: 'I've always said that one of the advantages of studying law is that you learn a method of problem solving that really equips you well in whatever job you go into'.¹¹⁴

Planning is important:

You do better research if you've got some idea of where you are heading. So I mean I think starting off by reading maybe what's in *Halsbury's Laws of Australia* on the topic will focus the Internet searching. ... But it's what we have and I think it's very linear and I think what you do is much more complex than that.¹¹⁵

Nevertheless, developing knowledge is 'a messy journey' and there is 'no one right way to do it'.¹¹⁶ There is a need to be 'adaptive' to the problem.¹¹⁷ This may require 'divergent synchronous multitasking', that is, a need to look across various resources and multiple screens.¹¹⁸ This was contrasted with regular legal research tools which tend to be constructed so that the user needs to approach them as a vertical tool, hyper texting or drilling down within the one resource from the general to the specific.¹¹⁹ Serious concerns about the integrity of research method was highlighted in the interviews:

112 Interview no 7 with librarian.

113 Interview no 6 with librarian.

114 Interview no 14 with judge.

115 Ibid.

116 Interview no 12 with publisher.

117 Ibid.

118 Interview no 4 with academic researcher.

119 Ibid.

I'd say the vast majority of people are just searching by key words for information. They're probably not drilling down through the taxonomy so they're doing it a totally different way to how you'd approach the old print equivalents.¹²⁰

I suppose that's how the electronic is somehow different because all of a sudden you are not tied to an index in a book, you [are] actually having to solve a problem by breaking it down to its component parts and putting it back together in a search string. So much of doing that right is, or doing that effectively is being able to analyse what the issues actually are, how they can be represented and matching them in the databases with the resources. And there are always so many ways to come at each problem. It's not linear at all.¹²¹

Others spoke of the importance of current awareness and updating knowledge constantly, 'triangulation' and the idea of starting wide and then narrowing using the 'maze of online materials'.¹²² There was recognition of the need for additional work with the so-called 'hard cases' which often require a process termed 'dry gully' research: investigating every possibility or dead end in order to ensure all the possibilities had been covered.¹²³

E The Effects of Technology on the Way Lawyers Reason

One theme that arose consistently was the risk that legal reasoning was becoming increasingly superficial in the current environment, and one indication of this was a tension between searching for principle in contrast to searching for the 'same fact case':¹²⁴

I haven't got any proof, I don't know how you would measure it but I think in terms of cost, ... my feeling is that people are looking more ... at fact matching than using principles. ... You should be looking for what's the principle you are going to apply here. We've kind of moved away from principles.¹²⁵

Even though it was acknowledged that there are accepted principles within the community of practice, 'it's always helpful if you can find a similar fact case and see how somebody has treated [it]. That is the easiest way to deal with a case'.¹²⁶ There was an appreciation of the need for discernment in the basis for choosing between precedents with similar facts.

I think that technology has changed the way that the law works and the way people go about legal reasoning. ... I don't think it's principles and facts ... What it meant ... was we had to take cases that were a million miles away from the problem that we had and we had to somehow say 'oh there's a principle there that I can somehow extend to get to my fact situation' ... the upside to that in particular

120 Interview no 1 with librarian.

121 Interview no 8 with librarian.

122 Interview no 13 with judge.

123 Interview no 14 with judge.

124 Interview no 11 with publisher.

125 Interview no 8 with librarian.

126 Interview nos 12 (publisher), 13 (judge).

areas [was] you probably only had to know half a dozen cases and you would work with those and be creative and try to extend them to match what happens now.¹²⁷

My general point is that the whole game has changed. The way people reason has changed. It's not just the way we research.¹²⁸

In what situation will a judge prefer a same fact authority versus an authority which actually states the rule of the law pertaining to the matter ... or basic principle and in what situation will a judge prefer one over another? There are loosely framed rules around this stuff but it's not certain and it is also something that practitioners struggle to interpret.¹²⁹

Often though you still need to look at applications of that principle in cases that may have analogous facts to assist you in working out how to apply that principle in your case. But I still come back to principle.¹³⁰

It's not as if we have to do lengthy research for every area of the law. There's a lot which have been settled for some time. There might be new cases that are current examples of established principle but all they are [is] examples.¹³¹

There was a concern expressed about the search for authority: 'no one wants to know what the House of Lords decided in 1932 or even what the High Court decided in 1981. You know it's this ... what's happening now and what's so readily available.'¹³² These comments highlight the need for practising lawyers to have a solid grounding in the rules of precedent, coupled with deep thinking, insight and critical skills. As one publisher commented:

I think with the students ... they rely too much on the machine, they rely too much on search results but they don't really have that kind of critical or original thinking to drive the research ideas. So I think in terms of training, that I think it's a starting point, the machine, the search platform, everything is a tool — it's not something that they expect the machine and result to be the answer. I think that's part of the education. That is your job.¹³³

This is similar to the process Keegan refers to as 'extract[ing] wisdom'.¹³⁴ This includes

[t]he ability to cut through data, to see the bigger picture, to make connections, creative leaps, to summarise and prioritise, to challenge and build on other people's ideas, to pull out strategic directions from a maelstrom of competing thoughts, to synthesise and hypothesise whilst staying true to the outcomes of the research, to contextualise historically and situationally, to make sure that we as researchers maintain the ability to think ...¹³⁵

127 Interview no 10 with academic.

128 Ibid.

129 Interview no 11 with publisher.

130 Interview no 14 with judge.

131 Ibid.

132 Interview no 15 with judge.

133 Interview no 2 with publisher.

134 Keegan, above n 37, 343.

135 Ibid.

IV THE WAY FORWARD USING THE COLLABORATIVE EFFORT OF THE PROFESSION

Richard Susskind states that what we are currently experiencing is a ‘Technology Lag’ and that this transitional phase of information overload will pass so that ‘increasingly capable systems ... will come to solve the problems and offer advice, rather than simply retrieve and present potentially relevant documents’.¹³⁶ In order to achieve this outcome, the search algorithms will need to be reliable. So in the interim, the current legal community will need to protect the system to ensure the accurate documentation, analysis and development of the law.

Legal educators have an important role in this transition era. It is clear that modern lawyers need to not only be highly skilled researchers, but also have excellent critical abilities in order to sort through the mass of materials that the systems are providing. While the experts may argue that some legal research processes are definitely more correct than others, the plethora of sources means locating information is relatively simple. By reframing the goal of legal research instruction to increasing the information literacy (specifically, the *legal* information literacy) of our students, we will be able to leverage the research skills they already possess and instil in them skills that are transferable to the legal research tools of tomorrow. Today’s students need less instruction in how to *find* the law and more instruction in *assessing* and *evaluating* the sources they find. This means that the skills embedded in the Threshold Learning Outcomes and Course Learning Outcomes, in particular, critical thinking, problem solving, reflection, and communication, in conjunction with research skills, will have added value for assisting new graduates in the interim period.

While the law degree provides the student with a taxonomy of the law and basic skills, another view was that it was more the role of the guild, including those in practice, who were responsible for teaching skills ‘through the process of articles and pupils/readers and tutors which creates its own control mechanism’.¹³⁷ The ‘guild’ encapsulates ‘[t]he idea that there is a profession and you learn skills through the practice, like an apprenticeship. ... That’s how they learn about veracity ... Through the process, through the guild’.¹³⁸ Therefore the sense was that it requires collaborative effort of the whole ‘community of practice’ (including the librarians, practitioners, legal publishers, academics and judges) to act as the guides for the coming generation of lawyers.

Since ancient times and the libraries of Alexandria and Constantinople, librarians have been the curators and keepers of knowledge. With the advent of electronic data, physical collections are shrinking. Librarians needed to reinvent themselves — firstly as ‘archivists’, but also as ‘facilitators’ in this new order.¹³⁹ There is still a need for librarians to take on a role as curators of digital records, creating some

136 Susskind and Susskind, above n 5, 152.

137 Interview no 12 with publisher.

138 Ibid.

139 Interview no 3 with librarian.

order in the chaos and engendering additional quality assurance in the digital world.¹⁴⁰ Law libraries will be ‘licens[ing] digital content relevant to law’ but also curating the content that is available free.¹⁴¹ Law librarians are seen as ‘keeping the quality assurances from the point of view of the consumers’.¹⁴²

We’re heading into a position where there is a need for librarians to become digital curators and make sure they perform the assurance role once libraries did and paper did in a digital world. That is quality assurance. That is assurance that we are not losing our digital memory or our social memory or our legal memory. But that’s being maintained for future generations. That’s really important.¹⁴³

The publishers, too, have a role in preserving knowledge and assisting research within the community. They are changing their research tools to fit the new multi modal teaching environment. They are producing ebooks to augment the ‘flipped classroom’ model of instruction.¹⁴⁴ The publishers appreciate that the new generation researchers are impatient with Boolean searching techniques. Researchers are used to receiving quick results, and they become frustrated with unsophisticated search engines and structures. As one person commented:

I find that a lot of legal research tools are ... not particularly intuitive. ... [S]o I’ve got documents open in front of me and I am looking across them trying to digest what the argument is while looking at various things at the same time. Legal research can be a bit like that sometimes ...¹⁴⁵

But research tools are not like that. ... Search tools are vertical. They are drop down menus. You go into it and you drop down something, you drop down something else. And if you miss, or you get the wrong one, it’s like whoops, go back to the beginning. You know press star to return to main menu. And I find that to be very time consuming and frustrating.¹⁴⁶

These comments highlight a basic disjunction between the present tools and research method. Researching legislation in Australia is relatively straightforward, effective and accurate. Legislation is freely accessible on authoritative government and parliamentary counsel websites. We now need to ensure cost-effective methods for handling the bulk of court judgments. Systems need to be in place to ensure all practitioners and students can access reliable versions of authoritative decisions. There should be an attempt to standardise the curating and subject headings amongst the states. This is an area where the Law Council of Australia and state bodies can together play a role in ensuring uniformity of standards and

140 Interview no 12 with publisher.

141 Penny A Hazelton, ‘Law Students and the New Law Library: An Old Paradigm’ in Edward Rubin (ed), *Legal Education in the Digital Age* (Cambridge University Press, 2012) 158, 168.

142 Interview no 12 with publisher.

143 Ibid.

144 Catherine A Lemmer, ‘A View from the Flip Side: Using the “Inverted Classroom” to Enhance the Legal Information Literacy of the International LLM Student’ (2013) 105 *Law Library Journal* 461. See also Robert Linz, ‘Research Analysis and Planning: The Undervalued Skill in Legal Research Instruction’ (2015) 34 *Legal Reference Services Quarterly* 60, 76.

145 Interview no 13 with judge.

146 Ibid.

approach across the system. We also need additional data on the current use of the authorised reports in courts.

The judges interviewed for this study were mindful of the increased scrutiny on judgments occasioned by easier availability of their outputs, while noting that at the same time there was a pressure to release the judgments quickly: ‘You can’t say I’ll publish in a year’s time ... you need to be able to produce intelligent answers by way of judgments as soon as possible ...’¹⁴⁷

The situation increases the onus on judges to get it right the first time.

There’s a lot more scrutiny with judgments now I think than there used to be and one of the reasons for that is because they are all so available. A judgment is available the next day. ... What it means is you are under pressure to produce a judgment as soon as possible which is correct and which is learned as well. ... Often longer judgments usually with lots of authorities in them ...¹⁴⁸

Accompanying this requirement for speed and accuracy is the requirement for clarity in stating the reasons for decisions. The judges depend on the accuracy of the submissions presented to the court. The profession in their turn are reliant on well-structured precedent.

We have moved into a new era in legal research. There are now decisions to be made about the best ways to ensure that the supporting research infrastructure remains effective. The decisions involve the whole profession, and are about ensuring reliable and standardised curation of the big data.

In the meantime, concerns were expressed that there is a move away from legal argument based on principle and analogy to more simplistic fact comparison, following a trend present to some extent in civil systems. There is no proof of this phenomenon. We need to examine the arguments placed before the judges to identify if the concerns of the seasoned researchers are valid.

We need other perspectives on this process. In this context, more extensive research involving interviews with recent graduates, the digital natives, would definitely augment this study. Such research may well provide a more positive framework for handling legal data in the next decade. We should be interviewing and talking to early career lawyers. It may be that more junior players in the profession see the research world unfolding in a different and better way to the past.

In the interim, the publishers, librarians, legal educators and the practising profession all have a role in ensuring reliable research patterns and sources evolve. Until this occurs, the profession needs to be mindful of the potential ramifications of technology on both research method and the fabric of the law in this transitive period.¹⁴⁹ What we do is not linear, and arguably difficult to replicate in an algorithm — it’s ‘much more complex than that’.¹⁵⁰

147 Ibid.

148 Ibid.

149 Susskind and Susskind, above n 5, 151.

150 Interview no 14 with judge.