Rom, Silicon and a Cache, or Why Do Some of Us Still Love Books and Hate Computers? [*]

Richard Haigh

Research Fellow/ Lecturer
Deakin University

Introduction

Law is a voracious consumer of technology. The need to be current, to ensure that advice is based on the most recent case or statute is crucial for effective lawyering. Legal databases have developed rapidly in the last few years in response to this demand, often at the expense of traditional paper-based legal publications. The situation has its parallel in law library resource allocation. As traditional paper-based library resources are left to wither, computerised legal databases take up larger proportions of library budgets. This ever-increasing reliance on computers should be measurable, one would expect, in more effective legal resources, more accurate researching and overall improvements in legal work. In my view, however, computers have a number of limitations and thus, the direction taken by law libraries may result in unintented side-effects for law students and future lawyers. Mine is not the only voice sounding this alarm,[1] although there are more (and stronger) voices championing the wonders of the computer[2] Although it is not likely that the tide of history can be reversed, it is my hope that an old-fashioned, simple and unbounded love for books, papers and libraries will be strong enough to resist all of them following bulky card catalogues into another non-electronic graveyard

This paper is divided into six short sections. The first section deals with the issue of whether the electronic era will help broaden, or democratise, the means to access law, and thereby facilitate an understanding of law (a claim made by many computer proponents). The second part argues that electronic researching can have no effect on the ability to be a competent lawyer. The next section moves beyond the surface of legal practice and examines how computers restrict certain aspects of learning. The fourth and fifth sections examine how excessive information and unforeseen costs, both associated with computer use, add to the

[1] See, for example, Birkerts, S *The Gutenberg Elegies The Fate of Reading in an Electronic Age*, New York, Faber & Faber, 1994; Landauer, TK *The Trouble with Computers Usefulness, Usability and Productivity*, Cambridge Mass., MIT Press, 1995; Stoll, C *Silicon Snake Oil Second Thoughts on the Information Highway*, New York, Doubleday, 1995

[2] The magazine *Wired*, for example, is devoted to the cult of computers; see also. Leontieff, W & Duchin,F. *The Future Impact of Automation on Workers*, New York, Oxford University Press, 1986; Meyer, ND & Boone, ME *The Information Edge* New York. McGraw Hill, 1987); one of the biggest proponents in the legal field is Katsh, E - see "Law in a Digital World: Computer Networks and cyberspace" *Villanova Law Review* 38 1993 p 403 (hereafter "Law"), "Digital Lawyers: Orienting the Legal Profession to Cyberspace" *University of Pittsburgh Law Review* 55 1994 p 1141 (hereafter "Digital"), and *Law in a Digital World*, Oxford Univ. Press. 1994

number of side effects associated with electronic search retrieval In the conclusion, I offer some tentative prescriptions for the future

The Open Computer

Professional monopolies exist, in part, to protect the public from improper practice They maintain a level of control over information that is relevant to a profession and employ standards for transferring knowledge down through generations.[3] In the practice of law, this is manifest in specialised terms, indexing styles and forms of precedent that assume a certain level of competence in order to access legal information in print form – all of which may well dissuade some citizens from gaining knowledge of the law

One way of combating this problem is to publish legal primers, explaining legal procedures and concepts in simpler language without reference to primary sources of law Another hope lies with the computer Computers can change the categories originally devised for print materials (torts, health insurance, principal and agent, etc.) into simple word commands, making finding legal sources easier (or at least more intuitive).[4] In this way, it is argued, electronic searching lessens the need for indexing methods, which by definition, create additional layers of comprehension between legal resources [5]

However, the argument is not so clear cut Granted, gaining access to legal information is not always simple. And computers may assist on one level. But when we speak of access we must understand that it occurs on a number of different levels: physical access, economic access, ongoing access and technological access So, for example, some users may not have physical access to a library or computer at all, some may not have the economic access to all the services available, some may find a book signed out or missing from the shelf or a computer system down due to malfunctioning software or environmental constraints, or finally, some may find learning the language of computers much more difficult than the language of text. These arguments, taken together, reduce the impact of arguments pointing to the opening up of the law put forth by

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3   See, for example, Schon, DA *The Reflective Practitioner: How Professionals Think in Action*, New York, Basic Books, 1983; Arthurs, HW "Progress and Professionalism: The Canadian Legal Profession in Transition", in *Law and Social Change*, Carswell, Toronto, Osgoode Hall Annual Lectures, 1972

4   Katsh, ibid "Law" at 477-478 He makes the point that so-called natural word systems in development at the time of his article (and now in common usage as WESTLAW's WIN system and LEXIS/NEXIS Freestyle searches) will make searching virtually as easy as asking a librarian a live question But see Dumais, ST & Schmitt, DG "Iterative Searching in an Online Database", *Proceedings of Human Factors Society* (1991) Santa Monica, CA: Human Factors Society (natural language searching results varied by more than 25% between those with low verbal fluency ratings and those with high ratings)

5   Katsh, ibid "Law" at 479

computer proponents.[6] Simple 'accessibility,' if it is a goal to be sought, should be attainable without any form of expert assistance.[7] What has occurred with electronic media is the substitution of one form of expertise for another.

Any serious discussion about accessibility in a computer age needs to extend beyond a simple comparison of technologies. As a few transnational corporations control much of the computer databases, we should be concerned about the accessibility and control of the technology used to store the information that is needed.[8] Although, the same argument had merit in the days of paper-based researching tools (in the form of digest services, encyclopedic services, etc.), because these were limited to a few known publishers, a large number of subject-specific research services, as well as case report indices and other local research products greatly increased the possible print resources available. In the electronic arena, the inexorable growth of WESTLAW and LEXIS may all but eliminate other online search databases in the next century. This effect is already seen by 'Americanising' research methods and databases, as it is now so much simpler for lawyers everywhere to electronically access all types of US legal materials than materials from any other jurisdiction. Of course, the Internet provides excellent access to a number of primary sources in a wide number of jurisdictions, including Australia,[9] but until all jurisdictions, court levels and secondary sources are included, it is not reliable.

Faster Research, Better Lawyers?

The proliferation of databases is evidence of a tremendous growth in legal products, but do they provide better research capacities? The dizzying number of legal resources available to online users will change what a legal researcher is now supposed to do. It is likely that a researcher will soon be expected to cover all fields, to check reported and unreported decisions from as many different databases as possible.[10] Is this what makes a good lawyer?

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6   There are many examples of how computers have failed to understand requirements of users Landauer, ibid cites too many to mention here. Proper design of computer programs can eliminate these problems at the same time as showing ways to exploit the real power of computers. In the field of computer research, we need to explore whether simple word searches are the most effective way of utilising the power of the computer for locating information. For example, certain search terms may work best in making an initial finding within an area of law, but the same terms may not be the best terms for finding concepts within the initial data set.

7   See Landauer, ibid, at Part III, for numerous examples of the inaccessibility of computers

8   See Blanke, HT "Libraries and the Commercialization of Information: Towards a Critical Discourse of Librarianship" *Progressive Librarianship* 1990-91 p 9

9   The Australian Legal Information Institute (http://www.austlii.edu.au) is a good source for certain courts and State legislation, but it is really still in its infancy. Many of the journal links are under-represented, so that LEXIS is still a far superior source for legal commentary.

10   Notable in this regard are two statements from American judges: in Whirlpool Financial Corp v GN Holdings Inc (67 F.3d 605 (7th Cir 1995)) Kanne J stated, "[i]n today's society, with the advent of the "information superhighway", federal and state legislation and regulations, as well as information regarding industry trends, are easily accessed" And in McNamara v US (867 F. Supp 369 (E.D. Va 1994)) Payne J said: "In the modern environment of law practice, the law changes rapidly, as a matter of course. The first question is whether, in this environment, it is outside the wide range of reasonable conduct for a lawyer to fail to utilize some method of keeping up with changes in the law. As technology and resources develop, the minimum knowledge and preparation required of lawyers develops as well." It is almost certain that lawyers in Australia will, sooner or later, need to uphold these same standards.

As law teachers, we try to instil in students that in one sense, cases are vehicles for understanding concepts. What students need to learn is how the facts, reasoning and principles found in cases are the machinery for making legal argument. This is one of the more difficult concepts to establish. The proliferation of online legal cases will exacerbate this problem in unpredictable ways by distracting students from the real issues. Now, more than ever, a case will be found to support any proposition, and students will assume that it is necessary to find such a case in order to answer the given problem.

Defenders of computers argue that electronic searching is just a 'tool' that simply adds value to the preparation of legal opinions and commentaries. This argument ignores how the process alters the very product sought. In the same way that the invention of automobiles altered more than just the method of getting from A to B, computers and legal databases will change the end result of research, but in ways that are too early to envisage.

One sign may be the trend towards plain language English for lawyers. Birkerts has already noted the 'dumbing-down of discourse'[11] that has occurred in the electronic age. Arguably, the same is true of plain English in lawyering. Is it a better way of communicating, or just a loss of the complexity and distinctiveness of expression due to a loss of print literacy? The debate still rages, but the point is that plain English is now accepted, but without any clearly articulated principles as to why[12]. While I am not contending that arcane 'legalese' should be retained, at the same time I decry the move to less complex, less creative, writing.[13] Perhaps plain language is a concession to the lowest common denominator, or a way of coping with the new way of electronic writing.

Knowledge by "Electronic Photons" or by Text?

A book contains more than just text and narrative. There are 'internal narratives' found by subsequent readers. Even in law books, these can be discovered; obviously, they are lost in a downloaded computer search. For example, in computer retrieved documents no signatures or inscriptions guide you and tell you where the book came from, and whether it was donated or belonged to others in the past. There are none of the annotations, handwritten marginalia or interlining that are pervasive in library case reports. A case within a reporter can be well-

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11 See Birkerts, *supra* note 1 at 128-130

12 See Benson, R W "The End of Legalese: The Game is Over," *New York University Review of Law and Social Change* 13 1984-85 p 519; Felsenfeld, C "The Plain English Movement in the United States," *Canadian Business Law Journal* 1981-2 p408; Stark, S. "Why Lawyers Can't Write," *Harvard Law Review* 97 1984 p 1389

13 See Meyer, P. "Fingers Pointing at the Moon: New Perspectives on Teaching Legal Writing and Analysis" *Conneticut Law Review* 25 1993 p 777 (use of a particular language is exclusionary - plain language may just be substituting one form of power structure for another); see also Sossin, L. "Discourse Politics: Legal Research and Writing's Search for a Pedagogy of its Own" *New England Law Review* 29 1995 p 883

thumbed and dog-eared, or untouched, giving instant visual clues to its importance.. Such concrete details are not visible online

But more than just these internal narratives is lost.. In a library, the law is represented by hundreds of case reports and statutes accumulated on library shelves To someone schooled in the common law tradition, the imagery of similarity and solidity given by the spines of multiple volumes of reporters is a testament to the sheer weight of precedent.. Electronic data removes this context and creates the impression of information without history; electronic search results, presented either in reverse chronological order or based on the number of matches with searched terms, provide no links between sources.[14]

As another example, paper-based digest services can place subject areas in context. Summaries can quickly and effectively determine the importance of a particular area of law, the differences or trends in multiple jurisdictions, the leading cases, and recent additions to the caselaw. In a digest, editors distil cases into their most useful parts and provide samples of cases on particular topics under a certain classification.[15] Unlike electronic services, where highlighted sections may or may not provide a quick understanding of a case, a paper-based digest service situates cases within a topical context that aids in understanding [16]

Moreover, research suggests that computer-based searching is no faster, better, nor simpler than paper-based research.[17] Granted, some components of electronic research are faster; no paper based researcher will be able to find specific passages from a particular case as quickly as someone at a computer.[18] Electronic searching separates each element of research, so it is easier to quantify and point out efficiency gains in certain areas. This ignores the fact that proper researching is a *process* that is indivisible; it is a process made up of thinking, formulating, examining and understanding. In paper-based research these stages overlap, so quantifying disparate items is impossible. This does not, necessarily, mean that overall efficiency is lost.

Finally, there are practical limitations in using electronic images. The electronic form is often so removed from the reality of reading that paper printouts are usually required Whereas books and paper-based products provide signposts such as pagination, sections, indices and tables of contents, that help readers move from

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[14]   Birkerts argues that etymologically, history is affiliated in complex ways with texts. Removing texts from their paper origins will change their very meanings   See Birkerts, ibid at 129-130

[15]   Of course, classification systems are human inventions and subject to their own inconsistencies, suppositions and omissions   See Gould, S J in "Taxonomy as Politics," *Dissent*, Winter 1990. p 73   See also the Conclusion and accompanying notes

[16]   This view is subject to criticism — see Conclusion and accompanying notes. However, this criticism is not directed at the *idea* of a digest, only digests as currently configured

[17]   See Landauer, ibid, at chapter 1 for a discussion on the productivity of computers generally, page 58-60 for a discussion of the results of studies comparing researching times via paper and computer

[18]   Although this is also subject to some dispute — see Landauer, ibid, at chapter 11   Given specific words to look up, there is no question that computers are faster; the problem arises where searchers need to create words from concepts

one part of the document to another and to understand where they are, most search engines on computers are incapable of this (FOLIO VIEWS is a development that attempts to change this, but in this writer's opinion, is still light-years away from paper-based products.)[19] The end result is that laser printed output becomes an additional step in the research process. It is ironic that the huge increase in demand for paper, directly attributable to increased computer use in the last 10 years, is one of the few concrete outcomes of the 'paperless society'!

Unbounded Data

Greater access may be seen as a virtue; too much data easily renders information valueless. Today, information is everywhere, but it is also simply a buzzword for the 1990s, adopted by businesses as *the* path to prosperity. In this climate, exploiting information becomes a necessary aspect of doing business

What is forgotten is that an explosion of information can be as crippling as a lack of it. Professor Umberto Eco uses the example of a lottery where the winner of a one billion dollar prize must, as a condition of acceptance, count it out in one dollar increments. Although it sounds like a dream come true, it would take most of a lifetime just to finish the count![20] An over-abundance of information is not only unhelpful, but makes the very information itself valueless. I am not convinced that information, as a product in itself, is necessarily important to all consumers. In the field of legal research especially, capability and competence depend on many factors other than the quantity of information

The Unknown Costs of Computers

Another claim is that widespread computer use results in efficiency gains. It is supposed that the time saved by computers will enable lawyers to manage information better, thus providing better service for clients.[21] Most of the reasons adduced are obvious: the ability of computers to store large quantities of data means a typical law office can keep more precedents on file; computers allow a lawyer's time to be organised and managed more effectively; improved record keeping and billing will occur; and electronic databases enable lawyers to perform extensive searches in the convenience of their offices, which allows for better or more extensively prepared briefs and arguments.

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19   Landauer, ibid, at 249-250

20   See Eco, U "Why New Media Won't Kill Books," *World Press Review*, June 1996, p 16

21   See Katsh, ibid "Law" at 441ff

The argument may have some merit for legal practitioners.[22] But in an era of fiscal restraint, it is less compelling for universities and their libraries. Computer costs are extremely difficult to quantify; many of the costs of computers are hidden or not calculated, and so are simply excluded from budgets. Other costs are never realised. As examples: the high initial costs often include costs for applications or capacities that are never fully utilised; learning costs are often severely undervalued; rapid changes and incompatibility mean continuously replacing and upgrading computers; and unreliability problems create virtually unmeasurable costs in terms of value of time lost.[23] The actual cost of purchase, instalment, maintenance, database subscription rates, as well as downtime and frustration costs, should be included in budgets. Are the costs of maintaining book collections and serial subscriptions really so extravagant, balanced against all these factors? Or is it really a matter of sunken costs due to investments in computer infrastructure that then take funds away from alternatives? It is debateable whether universities have really saved with much of the investment in technology. And certainly no one has spent the trouble quantifying and adding up every category of costs and done line-by-line comparisons of each.

Conclusion

Current legal knowledge and understanding has been assisted by the categories employed in digests, encyclopedia and legal citation tools. But how deep is this understanding? There is a growing body of literature that is critical of this categorisation.[24] As stated by Richard Delgado and Jean Stefancic:

> "Existing classification systems serve their intended purpose admirably: They enable researchers to find helpful cases, articles and books. Yet, at the same time, the very search for authority, precedent, and hierarchy in cases and statutes can create the false impression that law is exact and deterministic - a science - with only one correct answer to a legal question."[25]

Others maintain that these classification systems are biased or insensitive because they reflect dominant Euro-centric ideologies and ignore other cultures, races and genders.[26] The end result is that categorisation may ultimately affect the ability of lawyers to properly serve their clients.[27]

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[22]   However, compare data available from Landauer, ibid, at Part III

[23]   See Landauer, ibid at chapter 1, note 21; and pages 116-118. Landauer points out that one factor almost always overlooked is typing ability. Huge productivity gains in using computers could be realised if all users simply learned to type (at 121-122)

[24]   See Delgado, R & Stefancic, J "Why do we Tell the Same Stories? Law Reform, Critical Librarianship, and the Triple Helix Dilemma," *Stanford Law Journal Review* 42 1989 p 207; Berring, R C "Full-Text Databases and Legal Research: Backing into the Future" *High Technology Law Journal* 1 1986 p 27. See also Gould, S J ibid

[25]   Delgado, R & Stefancic, J ibid at 216, citing Birdsall, W F "The Political Persuasion of Librarianship" *Library Journal* 1988 p 75

[26]   See Delgado, R & Stefancic, J ibid at 216 and accompanying notes.

[27]   See Crenshaw, K "Demarginalizing the Intersection of Race and Sex: A Black Feminist Critique of Antidiscrimination Doctrine, Feminist Theory and Antiracist Politics" *Chicago Legal Forum* 1989 p 139

What is exciting is that the computer may provide some relief from this. As many computer databases now contain full text caselaw, where cases are located by key word searches and Boolean logic, the researcher can choose from an infinite number of search parameters, and set the parameters for defining the legal problem. Both help empower the operator in the search process.

On the other hand, computer retrieval systems are more adept with narrow, discrete legal issues and facts, than with open-ended queries, since the techniques for searching depend on exact word matching. In effect, computer researching becomes a skill that requires a full understanding in order to be effective. As an example, it is probably better to use computers when searching for cases or articles on cricket bats and house damage, but less useful for finding material linking postmodernist theory to unemployment law. In this way, computer research discourages analogical reasoning and browsing, whereas the researcher wandering the stacks of a library may, simply by seeing similar subject matter side-by-side, or finding linked concepts within digests, have intuitive flashes leading to intellectual discovery.

Despite all the caution expressed in this paper, computers are not going to disappear. There is little doubt that computers will have a tremendous impact on the practice of law. No lawyer can turn his or her back on this revolution. The lawyer of the future must become intimately familiar with technology, and will need to understand information and how best to add value to it. It will be imperative to assess vast amounts of information from sources both local and remote.

But we are still at a crossroads in the use and development of this technology. Perhaps a good analogy is to imagine the invention of the automobile without the concurrent development of an adequate road system. In the case of the computer, little has been done to develop the technology of research, and use of legal databases, as the quantity of information available has exploded in size. As professional users, we must therefore be willing to be critical. At a minimum it should be incumbent upon us to offer suggestions to computer designers and to criticise and caution those in charge of library budgets to avoid needless expenditure and superficial changes. Finally, we should ensure certain traditional library services remain intact. Libraries should never be taken for granted. There will always be value in paper and in books.