'MY UNIVERSE IS HERE': IMPLICATIONS FOR THE FUTURE OF ACADEMIC LIBRARIES FROM THE RESULTS OF A SURVEY OF RESEARCHERS

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Supporting the information needs of researchers adequately is a major challenge for unversity libraries. This paper outlines results of a survey of 23 researchers conducted by Deakin University Library into their information needs and perceptions of the library's role and performance. The survey challenged established ideas about researchers' preference for print, the age of resources required, and reliance on specialist rather than general or cross-disciplinary databases. Of note were changes in use of the library and online resources, and in the need for library support services. The study raises key questions about the future roles of libraries and librarians.
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Depictions of libraries of the future in popular culture can be illuminating as well as interesting. Often they reflect librarians' library-centric view of the world, where the library is the central repository of all important knowledge, and the librarian serves as gatekeeper and guide (see for example, *Star Wars Episode 2*[1]). As a device, books are often used as symbols of the freedom to think in the face of oppression (for example, *V for Vendetta*[2]), validating the library credo of the importance of preserving knowledge, in particular its most powerful medium, the printed book. Occasionally depictions of the future can be more challenging. In *I, Robot*[3] the robot-phobic character played by Will Smith is confronted by an adversary who accuses:

> I suppose your father lost his job to a robot. I don't know, maybe you would have simply banned the Internet to keep the libraries open.

Universally, it seems, libraries are associated with *books*. OCLC, reporting a 2005 survey, noted that 'roughly 70% of respondents, across all geographic regions and U.S. age groups, associate libraries first and foremost with books. There was no runner up.'[4] Confronted by the growth of online resources and the ready availability of online information, librarians strongly defend the future of libraries, and concomitantly, that of print. They point to the continuing increase in paper titles published, the wealth of information still not digitised, people's preference for print, and indeed their relationship to the medium, including psychological and cognitive aspects.[5] 'Electronic sources of information alone cannot substitute for all the wealth and richness of the conventional library'.[6] Studies may show a continual increase in the use of online resources by researchers[7], yet there is enough evidence presented to indicate that academics are not fully in favour of cancelling print subscriptions, or discarding print backsets.[8] Librarians seize evidence that print journals and books remain important, and recommend marketing print resources to undergraduates, for example, as a way to get better grades.[9] This position is redolent of a last stand, books and libraries against an overwhelming onslaught of online information.

The role of the librarian is correspondingly defended. Internet search engines are seen as no match for the discrimination brought by a professional librarian. 'Forget the personal trainer, the personal banker, it's the personal bibliographer that everyone will want'.[10]

In this romantic – or nostalgic – scenario the future has libraries stocked with printed books, and the world pretty much going on as it is, because digital cannot replace print, no matter how much is digitised. The other view, represented at the extreme in *I, Robot*[11], sees libraries fundamentally transformed by the move online, both in their nature and in the services they provide.

Surveys seem to report consistently that, as use of electronic resources increases, visits to the physical library decline.[12] What is to stop a future where the libraries are closed, because the internet delivers everything that libraries once did? Libraries and librarians are the products of information encapsulated in a medium that by its nature can be stored in discrete collections, controlled, lent and borrowed. Academic libraries are a monument to the professional credo of

collecting print, with size still used as a primary indicator of quality and worth to the user.[13] Size has been a critical factor in attempts to evaluate library collections through activities such as Conspectus. Although the Conspectus summary of various collecting levels makes it clear that the types of works collected is important ('basic', 'fundamental', 'classic', 'key', 'seminal' and 'significant' for instance[14]) size increases as you go up the chain: from no selections, to a few selections, to a broad selection, to a collection including 'all significant works of recorded knowledge'.[15]

Librarians 'work in a profession that was conceived and designed to function in the print world'.[16] Librarians have created clever ways to discover information wanted by users, clever ways to categorise it, list it, order it, retrieve it, and, on the way, ensure its availability to others in the future, disasters aside. Librarians are typically intermediaries or gatekeepers to the information in these collections. What happens when that role 'is effectively reduced to an echo in an empty room when consumers have the ability to vote with their mouse clicks and money'?[17]

CONTEXTUALISING THE STUDY

In response to the growing availability of online resources and increasing needs of research, Deakin University Library, a medium-sized Australian university library, undertook a survey to determine information needs of researchers in the current environment, and the library's perceived role and performance. The survey had its origins in concerns about a lack of overall strategy for developing access to journals and databases in a progressive way that would best serve the institution's needs into the future. At the time there was no articulated policy regarding the provision of access to journals in hard copy or online, and there was concern that measures were not in place to ensure adequate journal coverage for the University's priority research areas. It was felt that there was a lack of understanding by the Library of the strategic and developmental needs of researchers within the University. Though the Library had in the past held focus groups to ascertain client needs and expectations, these had concentrated on students and on academics as teachers, rather than on researchers.

The Library Committee of the time recommended conducting a survey to identify whether library holdings and services were sufficient and to gather suggestions for future improvements or changes to holdings and services. It also wished to identify ways in which the library might further support present and future research needs. The survey team established by the library was also keen to use the survey to inform the library of researchers' attitudes towards online resources, and inform the library's future collection development decisions.

Internally there were conflicting opinions among library staff concerning appropriate collection management practices. Most staff held firm to the view that online sources of information alone were no substitute for the services and collections provided within the physical library spaces. Many staff were resistant to the notion that print resources were becoming increasingly irrelevant.

Although the library was progressively increasing online availability of journals, most librarians believed researchers preferred print, and would resist giving up print subscriptions and removing print journals from the shelves.

The library collection had been developed according to traditional notions of the size of a collection being a measure of its worth. Emphasis had been on acquiring material through purchase and donation, to build scope and depth in the collection. The traditional notions expressed in Conspectus levels drove collection building. For research (level 4) this includes current and retrospective resources, major published source material, all important reference works, a wide selection of specialised monographs, and an extensive collection of journals.[18] Where possible, the library had acquired extensive print journal back sets to support research. Thus the collection reflected traditional ideas regarding 'just in case', rather than 'just in time', and was being developed by librarians immersed in a professional culture that believed research was best supported by big collections of historical, as well as current, print resources.

Overall, collection management practice reflected the notion that professionally trained librarians know best what library clients should have, and must act as curators of the library collection to ensure it maintains its value not just for current users, but also those in the future. This was despite the fact librarians acknowledged academics as the experts in their disciplines, and worked closely with them in selecting materials.

Originally the survey was envisaged as a universal web survey, and similar surveys used elsewhere were investigated as models. However, after consideration, it was agreed that a small team would undertake a series of interviews with research staff across the University. It was hoped that by using interviews rather than a web survey, the quality of the information gathered would be higher and more detailed.

The initial survey consisted of a series of interviews with 23 researchers. The survey group included researchers from all faculties, at all stages of a research career, those new to the institution and those long established, and of different ages and academic levels. All interviews were undertaken face-to-face in the interviewees' offices, with the exception of one conducted by telephone. The interviews were recorded, transcribed and the data categorised and coded. All comments and suggestions were regarded as having equal merit. Those mentioned by several researchers were given higher priority, but any suggestion was noted for investigation.

The process involved:

1. Formulating questions
2. Sending letters to Deans, Associate Deans (Research), Deputy Vice Chancellor (Research)
3. Testing interview questions
4. Scheduling interviews (via phone; a confirmation email and confidentiality statement and consent form were sent)
5. Carrying out interviews

6. Transcribing the taped interviews
7. Coding the data
8. Analysing the data
9. Drafting the project report
10. Reporting back to the library management group with recommendations.

It was expected that answers to some questions would be very different, reflecting the researchers' different discipline areas. However, the areas of commonality have been surprising, with some responses counter to the expectations of the research group. The trends identified have considerably challenged the library's traditional notions regarding researchers' preference for print, the age of resources required, and reliance on specialist rather than general or cross-disciplinary databases.

FINDINGS OF THE SURVEY

'Without Wanting to Sound Heretical I Hardly Go There'

One of the tenets of academic libraries is that they are central to the intellectual life of the campus on which they are situated. Library literature and campus planning often reflect this idea, which popular culture commonly depicts by having people meeting and researching within the library itself.

According to the academics interviewed, however, this is far from the case. The results of this survey concur with the trend identified in Tenopir's overview of recent research studies – that 'among faculty members ... higher use of electronic journals is accompanied by a decrease in visits to the physical library.'[19] Few of those interviewed visited the library in person regularly. Many commented that they are physically using the library less and less. They also acknowledged this as a change in habits, with comments such as 'I used to be in the library all the time and without wanting to sound a bit heretical, I hardly go there'; 'I increasingly don't go to the library, I sit here and use what's online'.

This change appears to be a consequence of the increasing pressure on academics' time. Very few researchers write at work, instead choosing to do the majority of writing at home. Visiting the library no longer fits this pattern:

> We often think of academics sitting in their offices writing their stuff and they can go down to the library and they can do whatever but more often than not they're not on campus when they're doing that.

The depiction of scholars consulting dusty tomes within the library, though nostalgic and alluring, belongs to the past. A number of interviewees reflected on these past times when they would regularly visit the library to browse new books and journals, and the joy and serendipity of browsing and discovering something unexpected:

> the computer never stands the hairs up on the back of your neck [compared to] when you're in the library on your own and you're flicking and, aaaah.

> some of my happiest days have been spent in the serials collection ... going through tables of contents and not following a keyword; you're stumbling upon things in a hard copy in a way that I wouldn't stumble upon necessarily doing a database search.

In some cases physical browsing has been replaced by alerting services and library emails listing new books added to the collection. However, as use of a print collection in a central facility is replaced by the use of online resources from home and the office, a major challenge for libraries is to rethink their services and facilities in light of the fact that many clients rarely visit them physically.

'I Just Put in an Interlibrary Loan'

The notion of centrality also extends to the ideal of collection building, where research resources must be held within the library's collection itself, and the extent to which this occurs is a measure of quality and performance. Notions of quality of the university itself are associated with this idea, including its ability to attract and retain researchers. This is the source of 'just in case' versus 'just in time', and the reason for the common collection management tenet of continual and deliberate collection building.

However, the researchers interviewed seem to maintain a pragmatic approach to the ability of the library to purchase all the resources required by them. As research can be highly specialised there appears to be no expectation that the library needs to acquire all relevant material. Interlibrary loans provide an acceptable avenue for overcoming the gaps in the collection. One researcher commented, 'If there's [something] I think I want and the library doesn't have it I just put in an interlibrary loan'.

Many of those interviewed had access to other libraries, particularly university libraries, through colleagues such as research assistants, doctoral candidates or other research partners. Sometimes they had more formal affiliations such as associate staff membership. According to the ideals of collection building, this indicates 'weaknesses' in the library's collection, but overall those interviewed did not perceive this as problematic. Online catalogues have made the job of locating material much easier. There was clearly a view that the library could not provide everything required by researchers and formal mechanisms, such as interlibrary loan, or informal mechanisms as mentioned previously, were considered acceptable alternatives for gaining access to necessary resources by almost all researchers.

Academics also made considerable use of their own collections of materials. Many researchers purchased their own resources and, due to the specialisation of their research, did not feel the library needed to acquire them. Not surprisingly,

often their favourite journals were the ones they subscribed to, published in, or where they participated on the editorial boards, meaning there was not always the expectation the library should purchase them.

The library, though an important provider of information resources, is only part of the information network used by researchers to discover the information they need. As one researcher stated, 'I can always find it somewhere or on an interlibrary loan or some way'.

'Electronic is Obviously the Way to Go'

The early years of online resources were marred by suspicions about the trustworthiness of the resources – their ongoing availability, their completeness, their quality of production, limitations on use, and cost. Ongoing studies of user acceptance show continual increase in their use, but indicate difference in acceptance rates between academics from different disciplines, and a reluctance to replace print with online – rather, a preference to maintain both.[20] Despite the obvious decline in the use of print, the response within libraries has generally been to maintain dual access to both, particularly for core titles. In 2002 the Periodicals Price Survey noted a 'flip' from print-plus-online to online-plus-print pricing, and speculated that this indicated libraries were ready to make the switch to online only.[21]

All those interviewed were asked which would they prefer if the library could only afford either a print or an online version of a journal. Overwhelmingly the answer was online. Some who expressed a preference for print recognised this as a personal preference, and acknowledged the advantages of online: 'me personally I'd prefer print ... but I really think from the point of view of the university community ... electronic is obviously the way to go'.

There was an indication that some kind of watershed had been passed in the transition from print to online in recent times, as suggested by the following comment: 'A year ago I might have said just get the print'. Some researchers did express concern about losing access to journal content once an online subscription ceased: 'As soon as you unsubscribe from the online journal you also unsubscribe from all the historical files that you had access to it, so I guess that's my fear of online only'. However, regarding the transition from print to online, in the words of one researcher, for print journals 'I think it nearly is dinosaur time'; and of another, 'having that print there, I think it's fast becoming obsolete'. In contrast, '[online]'s much more convenient for me'; '[online] increases your flexibility. You can be where you want to be'; 'online is incredibly convenient'.

Another firmly-held notion challenged by the survey was the use of multidisciplinary databases for research. Interestingly, though an increasing trend to search by topic using large, mixed-title databases has been reported[22], librarians generally regarded the multidisciplinary databases as primarily undergraduate resources. Many researchers interviewed tended to focus on the large multidisciplinary databases and rarely spoke about the more specialised ones; as one stated, 'You want the [specialist database ...] but you also want the one where you can access more than just one research area, so that's why the *Expanded Academic* thing is

also good'. The use of multidisciplinary databases is consistent with new patterns of information search and access noted by Houghton *et al*[23] that are driven by the growth of new modes of research. One of the strongest themes that came from the interviews was the importance of cross-disciplinary research. One very successful researcher stated,"To be successful you do need collaborations and you need multidisciplinary approaches'. The popularity of databases and 'the scope they offer to cross-disciplinary boundaries and access a much wider range of articles than before'[24] reflects these new demands.

'Old Copies of Journals ... It Would Be Wasted Space'

The classic notion of collections to support research requires libraries to acquire and preserve resources for an indefinite period. The advent of online alternatives, such as JSTOR, which provides online access to complete runs of many scholarly journals, gives libraries the opportunity to dispose of vast stores of print, but libraries are only slowly taking this up. The slow movement seems related to several assumptions by librarians: that academics will not easily give up access to print, that large collections are associated with ideas of 'value' and 'prestige', and that research fundamentally requires access to older literature. The three assumptions intertwine – 'value' is associated with researchers' use and need for old material, 'prestige' is associated with greater size and so greater value, and maintaining print is related to concerns about the ongoing availability and quality of reproduction of the online equivalents.

Responses from the academics interviewed show there is no doubt that ready availability and access to material is highly desired, so much so that online is overwhelmingly preferred. Librarians in the study group were also very interested in how far back researchers commonly go when researching, because this is the most fundamental reason why long runs of print journals have been actively sought and maintained. This was the source of the greatest surprise to the group. As well as finding out that online was preferred by nearly everyone, the group discovered there was considerable variation in how far back researchers go when researching, even within disciplines. Almost as many researchers said five years of journal backsets was sufficient as those who said more than ten years was required. The mix of disciplines using older literature was also not what was generally expected by the group. The only constant appeared to be a generally greater emphasis placed on the need to access up-to-date information.

In response to a question about the need to keep long runs of print journals if the library had online equivalents, most researchers were quick to respond 'no'. A couple of academics acknowledged the vast amounts of space that print journal collections consume. One said, 'I think if you filled up all the shelves in your library with old copies of journals going back 50 years it would be wasted space'. Another commented, 'they do take up vast amounts of space and not just this library ... Other libraries where there are shelves and shelves of stuff and only five percent of the space in that particular shelf has got things that you might find'. However, if questioned further, a number spoke of their insecurities about

the permanence of the online versions. One respondent was adamant that print runs should be preserved and said 'Bloody sure you should [keep them]. You're a librarian ... you're not supposed to destroy the things'. Another commented 'I would like to know I suppose that somewhere in Melbourne there was still the print set of that journal'. Several suggested that the library should keep older print journals already in the collection, but otherwise should not acquire any more.

'I Can't Imagine Libraries Just Becoming a Computer Store'

Though a specific question on this issue was not asked, researchers offered conflicting views on the place and future of the library in an increasingly electronic future. Comments offered about the future of the physical library included: 'I can see it shrinking just like computer technology has made things shrink'; 'I'd hate not to see a library. Physical presence of a library for instance. Not to see an electronic library or whatever. I think we still every now and then really want to go and just spend time browsing, looking at whether it's papers, journals, books'; 'I can't imagine libraries just becoming a computer store'; 'I mean there's something about actually going to a [library]. Even though I don't do it very often, going to a place and seeing people. That I think is attractive.'

One researcher stated:

> The best thing the library has done since I've been here is the corner café. But it's not about more cafés, it is about a way of bringing people into the library because it is ... yeah alright so there's lots of academics now that don't go to the library but from not going to the library they also reduce the opportunity to exchange ideas. [In the future] are they [libraries] going to be places where you can suck people in because of other things that you have so that they can begin to talk about the ideas?

Interestingly, most comments focus on the experience of being in the library, rather than the services and resources it offers. A number of those interviewed spoke about 'escaping' to the library to browse, getting away from the phone, emails and people. 'You go there and you immerse yourself in the library'; 'I went down there to get away from all the harassments ... here'; 'If I'm sort of sick of this I go for a walk or go to the library'. Another common theme was the pleasurable experience of being in a library: 'There's something about walking into a library and seeing rows of books and journals and picking them off the shelf...and having a sniff through'; 'I spent so much time in the library and loved it'; '[using online] is nowhere near the pleasurable experience that it is to go to the library'.

This offers support for more optimistic predictions that 'the notion of libraries as place has demonstrated resilience'.[25] The current trend to redevelop library spaces from an emphasis on collection stores, to places for the meeting of people

and the exchange of ideas, as well as quiet spaces to be alone for study and research, may allow libraries to adapt and find a place in a future where most collections are online.

'Someone Who Could Actually Do ... the Leg Work For Me'

If the library is to be transformed, what happens to the librarians? Considering the diminishing physical use of libraries, will librarians lose their jobs? After all, 'milkmen and gas station attendants provided both good service and convenience, and both occupations disappeared in a single generation'.[26]

Many comments on library services focused on the need for more support, including more training and help services available out of hours, but a recurring theme of the interviews was the need for research assistants to undertake information seeking, in particular library-related information seeking. While this was commonplace with many senior researchers, it was a very attractive proposition to those without such assistance and/or those with limited research funding. One academic posed the following scenario:

> We don't get a lot of money [for research assistance] ... we might have $800... By the time we each go off and employ our own research assistant and you spend thirty hours with them teaching where the library is, how to get a staff card, how to log on.

One of the questions asked by the study team was 'If you had $10,000 of library money to spend on library-related resources, what would you choose to spend it on?' The team expected interviewees to mention resources such as journals, books, and databases. While this was often the case, a surprising number of researchers mentioned research support such as: 'Someone from the library who can search materials ongoing for me'; 'Maybe support for the new researchers ... People who don't have RAs [research assistants]'; and 'If I had $10,000 I'd be taking $10,000 of RA support to actually source the journals in my area that I might not be able to keep up to date with'.

It was interesting to see that library staff were seen as a resource by a number of researchers. Unlike the future of *I, Robot*[27], librarians may not yet lose their jobs because of the internet, but may need to reconsider the services they provide, including their role in finding information.

DISCUSSION

The most important finding of the survey was that many of the librarians' most cherished notions were at odds with the realities of researchers' usage and requirements of the library's collection and services. The researchers interviewed were clearly embracing the online availability of information at a faster rate than the librarians, and were generally less suspicious of its susceptibilities and more appreciative of the benefits for users. Librarians' ideals of collection building, where research resources must be held within the library building and the extent to which this occurs is a measure of quality and performance, bore no resemblance to the reality of researchers' information-seeking behaviour and

preferences. The reality discovered through the interview process raises some fundamental questions for libraries relating to collection development and management strategies, as well as future roles of librarians and the services they offer.

The project team's findings in general support the common expectation of an environment where access to information by researchers is online, including identification, requesting and delivery of material available only in print. Some of the issues this raises can be quickly addressed. If online is preferred, then the response is clearly to increase the availability of online resources. However, the management of online collections, including issues regarding non-permanence, are harder to address – though maybe not so critical, given the researchers' stated need for more current resources. The management of legacy print collections is becoming a growing and more pressing and problematic issue, and one not easily solved. Libraries need to consider, develop and articulate strategies to address the preservation of print resources as they are increasingly removed from the shelves. A number of the researchers interviewed expressed an expectation that any print resources they require will be available from somewhere – the question is from where.

A further challenge evident from the survey is determining how the library can maintain relevance as the use of a print collection in a central facility is replaced by the use of online resources from home and the office. Libraries are a combination of place, collections and services. The findings give support for the redevelopment of libraries from collection stores to flexible spaces, where people can research or meet and exchange ideas. More flexible approaches to the delivery of services, including out-of-hours-support, and more personalised services, also need to be seriously considered. The roles of library staff and the services they offer need to take account of the real needs of researchers and of the library's place in the wider information universe.

CONCLUSION

The future of libraries is certainly far from a foregone conclusion, and the shape it may take is as varied as its depictions in popular media. From shutting down (*I, Robot*[29]) to being sealed in helium (*Moving Mars*[30]), to direct interfaces with data (where interestingly, as in *This Alien Shore*, despite 'brainware', there are still 'libraries' for 'books' and 'journals'[31]), speculation on the future can be fun or confronting, confusing or frightening. Libraries have epitomised stability and certainty, with a charter to preserve knowledge for the future, come what may. Today's world where, far from being stable, things change rapidly, has finally had an impact on these storehouses. One of the ironies is that Google's mission, 'to organize the world's information and make it universally accessible and useful'[32], as well as reflecting the ultimate collecting philosophy of libraries, directly challenges it. Traditional notions based on building and managing print collections are losing relevance in the face of the growing availability of online resources. However, the aims of collection building may never have been more achievable, as users are able to acquire online access to larger numbers of journals than ever before.

In the librarians' library-centric view of the world, all knowledge is accessible through the library. However, the results of the interviews confirm that over recent years, a remarkable culture shift has occurred. This was succinctly stated by one researcher sitting in front of a laptop:

> years ago I would go to the library ...[be]cause I wouldn't have access to databases so I would go ... to do my searching there. This is going back some years, but now ... my universe is here.

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