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It’s the end of the world as we know it … or is it? Looking beyond the new librarianship paradigm

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Introduction

Librarianship is often described half-jokingly as ‘the second oldest profession’ (Myburgh & Tammaro, 2013). Not wishing to take the analogy too far, it could be said that the two oldest professions share their basis in a service culture, where the customer is always right and every need is catered to. But for libraries at least, this hasn’t always been the case.

Part of the charm of libraries and the appeal of the profession is that we provide our services free of charge. Rather than being perceived as devaluing our skills by giving them away, we are seen as having more intrinsic worth because of it. Yet in an increasingly competitive higher education environment, academic librarians are a conspicuous target. Libraries cost money, and they don’t (obviously) make any. Our universities are rapidly changing around us, and for the first time we are challenged to justify our value as well as our cost.

This book series looks at librarianship in the 21st century, where the role of the academic librarian has expanded to include research metrics, open access, data curation, repositories and many other areas conceived of as ‘a new librarianship’. In addition to these new concepts, we still retain our traditional skills of information organisation, collection management and reference. This blend of old and new has made us indispensable to our parent universities in the first decades of the century. But how long will this last? Like any forward-thinking profession, it’s time academic librarians looked into the crystal ball and made some predictions for the future. Are our skills still valuable? Are we ready to embrace the next librarianship?

This chapter looks at how academic librarians’ skills can be applied to areas outside libraries, where they are much in demand. These include: corporate information management;
knowledge management; intranets; search engine optimisation; business analysis; enterprise architecture; information policy; and learning space management.

_The reports of my death have been greatly exaggerated_

There have been many gloomy prophecies of the death of libraries. The first came with the burning of the Library of Alexandria, where we lost great works by ancient dramatists, poets, philosophers and scientists. It was impossible to think that the world could ever recover from such a tragedy. And yet, while that event—and any book burning that followed it—is synonymous with the repression of knowledge and loss of culture, we did recover. We do once again hold works in our libraries that show the earth orbits the sun.

Messages of doom for libraries have reappeared at regular intervals over the centuries, usually accompanying any major new development in technology: from the printing press to the paperback to the ebook. The common denominator for all of these revolutionary inventions is that they allowed greater availability of information, whereas once libraries had been the gatekeepers to all the knowledge of the world. They threatened (or at least were perceived to threaten) our way of life, our very existence. Gutenberg’s press printed books in the language of the commoners. Development of the paperback brought affordable books into the homes of ordinary people. Providing text in ebook format allowed more than one library user to have access to the same book at the same time. And web search engines let users develop their own queries, without the need for the complex syntax that drove early online databases and required a skilled professional to navigate. Google has been around since 1999, and electronic text longer than that. We are a generation on from this, and guess what? Libraries are still here.
Anyone would think we were simply afraid of change. And yet rather than putting us out of a job, technology has become a great enabler for librarians. We are frequently early adopters of scientific advancements (such as the internet and 3D printing), and we seek ways to bring these resources to others in an affordable and equitable way. This increasing availability of information over time, rather than depreciating the value of the profession, has reinforced the need for someone to organise and classify knowledge so others can navigate the morass. It seems laughable now that we would ever have opposed the idea of openness to information when it is now so integral to the practice of modern librarianship. And yet in some ways we did.

The State Library of Victoria in Melbourne, Australia, opened in 1856. It is a remarkable building, funded by the Victorian Gold Rush of the 1850s and designed to rival the splendour of other cities around the world (particularly Sydney, Melbourne’s arch rival to the north). The library was a symbol of the growing colony’s aspirations to be a ‘free and secular society where knowledge was made visible and accessible’ (Edquist, 2013), and books were stored on open shelves to enable library visitors to help themselves. At the heart of the Library is the magnificent Domed Reading Room, opened later in 1913. Modelled on the British Museum and the Library of Congress (Edquist, 2013), the room is octagonal, and at its heart features a raised dais where the librarian sat, looking down on library users and maintaining order.

<Insert Figure 1 here>

For modern librarians, this layout is immediately jarring. It is difficult to believe that as little as a century ago, we still built spaces where the librarian was so distant from library users,
and in such a clear position of authority. On entering an academic library now, visitors are likely
to see spaces founded on principles of flexibility, openness and learner-centred design (Brodie,
2008). It couldn’t be further from the architecture of the Domed Reading Room.

And it’s not just our buildings that have changed. As our universities evolve around us,
the role of the academic librarian shifts from information broker to trusted partner in teaching
and research. We have increased the scope of our work to show value to our parent organisations
in ways that we couldn’t have imagined twenty years ago: if we hadn’t adapted, we would have
gone the way of the dinosaurs long hence. Yet there is no doubt that academic libraries are
challenged as well as driven by these sweeping changes, and subject to shifts in the mood of the
higher education landscape. Public libraries, while pushed to cut costs, are rarely questioned on
their value, as they serve an acknowledged dual role as a community hub. Academic libraries do
not have the same protection: our users may conflate libraries very closely with the physical
buildings, not realising that the library is also providing access to the information they are
consuming by the gigabyte (Tenopir, King, Edwards, & Wu, 2009). When this happens, and
administrators hear ‘we don’t use the library’, academic libraries are at risk (Hinze, McKay,
Vanderschantz, Timpany, & Cunningham, 2012). So what can we do to show our value?

The origin of the species

One of the first lessons for any student of librarianship even now is Ranganathan’s five
laws of library science (Ranganathan, 1931), which espouse that:

1. Books are for use.
2. Every reader his [or her] book.

4. Save the time of the reader.

5. The library is a growing organism.

All librarians, regardless of field or generation, tend to agree that these laws are the basis of the philosophy on which our profession is founded. Yet for many modern librarians, the five laws are beginning to look quite dated. They don’t support growing diversity in technological means of accessing information, and are fixated on a single information medium—one that is itself used less and less, particularly in academia (Talja & Maula, 2003). Crawford and Gorman (1995) breathe new life into the manifesto and bring it to a new generation with their 1995 revision:

1. Libraries serve humanity.

2. Respect all forms by which knowledge is communicated.

3. Use technology intelligently to enhance service.

4. Protect free access to knowledge.

5. Honor the past and create the future. (p. 8)

This framework is better suited to the new librarianship paradigm than Ranganathan’s original, especially for academic librarians. We return to it later in this chapter as we look at how roles outside the library using existing skills can still be a good fit for our professional principles and practice.
**For whom the bell tolls**

So far, the changes to libraries we have described in this chapter have failed to toll the death knell for the profession. Yet change is definitely on the horizon. Vendors are providing many outsourced services that we used to perform ourselves, including affordable digitisation, shelf-ready print collections and patron-driven acquisition. Book cataloguing roles are morphing into repository metadata expertise, discovery layers, and search engine optimisation. We have moved from buying all our content through subscriptions to publishing some open access content ourselves.

Librarians have transformed with modest success from the print environment to online, but we need to prepare for what will come next. When asked in 2013 what the future of libraries would look like, Samantha Schmehl Hines of the University of Montana suggested that ‘Maybe … the librarian becomes the library’ (Schmehl Hines, 2013). In accepting this view, we shift the focus from the functions of the library to the skills and characteristics of the librarian. In Australia, most library schools have converted the course to a postgraduate qualification. In the United States, the head of the academic library is a dean. Worldwide, there is heated debate within the profession (and there has been for some time) about whether librarians should have PhDs. In the new librarianship, research skills can be seen as a bonus in dealing with complex data curation issues and tricky research questions. But let’s focus for a moment on a different upside to this apparent inflation in qualifications: even librarians new to the profession bring with them a wealth of skills, knowledge and training from other domains that serves to enrich, diversify and invigorate the profession. Hahn (2009) notes that:
‘[Librarians] cannot be expert themselves in each new capability, but knowing when to call in a colleague, or how to describe appropriate expert capabilities to faculty, will be key to the new liaison role. Just as researchers are often working in teams to leverage compatible expertise, liaison librarians will need to be team builders among library experts where this advances client research.’ (Hahn, 2009, p. 2)

With the variety of skills librarians now bring to the profession, we cover more bases than we used to. It would be a valuable undertaking to research which fields the new candidates come from, to identify the gaps, and to look at where it might be beneficial to recruit the next generation of multidisciplinary librarians. Hiller Clark (2014) encourages us to explore how ‘some of … [our] own more esoteric skills may be useful in the library setting’ (p. 11). Will this lead to mission creep? Almost certainly. So what? As our former university librarian at Swinburne noted almost five years ago (Whitehead, 2010), we are rapidly moving away from the ‘cosy library’ (the home of traditional library roles, collections and spaces) towards the ‘scary library’, where the role of the librarian is less and less familiar. Librarians need to embrace change as a constant in the profession. And if we can’t handle the heat, maybe it’s time we got out of the kitchen.

In a parallel universe

A recent tweet from @LousyLibrarian (2015) detailing a conversation with a library user indicates that we are not the only ones prophesying our own doom:
‘@LousyLibrarian: “Hasn't the internet basically made the library obsolete?” “The internet has also made saying dumb opinions out loud obsolete.” ’

Are librarians an endangered species? Should we give up, or should we fight back?

Crawford and Gorman’s revised five laws of library science (1995, p. 8) give us an excellent weapon against claims that librarians are a twee artefact of the past. These principles provide us with a clear framework for applying our traditional skills to a new information age. Through the lens of these five new laws, we can look at a number of career areas outside libraries where library skills are in considerable demand. These opportunities can help us advance our own goals, while at the same time assisting our organisations to achieve theirs.

Critical thinking and active listening are capabilities identified as important for librarians, and also transferable across and between professions (Hiller Clark, 2014, pp. 12-13). One field that requires these skills and uses them in a similar way is business analysis. This discipline is defined as ‘the set of tasks and techniques used to work as a liaison among stakeholders … to understand the structure, policies, and operations of an organization, and to recommend solutions that enable the organization to achieve its goals’ (International Institute of Business Analysis, 2009). Business analysis is often aligned with the IT function in an organisation, but it has a lot more to do with information flow than it does with engineering solutions.

Requirements elicitation, a key activity of business analysis, is the process of working with stakeholders ‘to identify and understand their needs and concerns, and … the environment in which they work’ (International Institute of Business Analysis, 2009). Business analysis is
often linked to systems and solutions, but it need not be—successful business analysts often don’t have a technical background, but must be able to understand how an organisation functions, including its goals, processes and intended outcomes. This is where critical thinking and good communication skills—key skills of the librarian (Hiller Clark, 2014)—come to the fore. In his definitive text on reference work, Katz (2002) identifies that above all, the capable reference librarian must have ‘an ability to talk to all types of people, to find out what they need’ (p. 13). Business analysts similarly provide a bridge between business users and the system implementation team.

The parallels between business analysis and the reference interview are apparent. Methods used to elicit requirements in business analysis take many forms, including workshops, structured interviews, business process mapping, and the application of standard techniques for prioritising requirements. The task for business analysts during requirements gathering is to ‘ensure that a stakeholder’s actual underlying needs are understood, rather than their stated or superficial desires’ (International Institute of Business Analysis, 2009). This echoes the words of Katz (2002) when he notes that ‘librarians tend to ask enough questions to clarify the real needs of the user rather than accept what may be only a weak signal for help’ (p. 16). Ethnographic studies of reference librarians show that what they do in practice is very like what Katz teaches (Crabtree, Twidale, O'Brien, & Nichols, 1997); (Nordlie, 1999).

The requirements gathering function can be a challenging activity for business analysts and reference librarians alike. Business analysts will often identify contradictory requirements from different areas of a single organisation. Business analysts, like reference librarians (and, hopefully, barristers), try to avoid leading their subjects towards a preferred conclusion or putting words in their mouths. Communicating requirements back to the organisation, resolving
conflicts and identifying priority requirements are critical skills of the business analyst. This is not so different from the reference librarian, who requires the ‘ability to take a jumbled query, sort it out, reword it, and feed it back to the person who put the question as if it was his or hers’ (Katz, 2002, pp. 24-25).

As we have seen, the business analyst’s role and ability is to work with business stakeholders to identify requirements and needs. This is a role compatible with the traditional skills of the librarian, and it may not require in-depth technical knowledge for librarians to transition to these roles—though it may require additional skills and qualifications.

However, many academic librarians are more interested in and proficient in the technical aspects of information work. Since the early days of computers, these librarians have tended to gravitate towards roles such as the systems librarian. Within the modern university, however, there are other information technology fields that go deeper into the functionality of and relationship between organisational systems. These new roles have connections for, and may suit, some technically-minded library and information professionals in the future.

One example is enterprise architecture. This field emerged in the 1980s as a means of addressing significant organisational IT problems: the rising cost and complexity of systems, and the poor alignment of these systems with organisational needs (Sessions, 2007). The role is seen as ‘applying architecture principles and practices to guide organizations through the business, information, process, and technology changes necessary to execute their strategies’ (Federation of Enterprise Architecture Professional Organizations, 2013, p. 1). The enterprise architect role is perceived as having a ‘unique blend of skills … including business, information, and technology competencies’ (Federation of Enterprise Architecture Professional Organizations, 2013, p. 8).
Is this blend really completely unique? Once again, comparisons with the modern multidisciplinary librarian should be drawn. Enterprise architects work with experts from a range of ‘inter-connected disciplines’—including risk management, information management and metadata management—as well as with technical disciplines (Federation of Enterprise Architecture Professional Organizations, 2013, p. 7). These domains are areas of expertise for librarians, especially those with a background in corporate information management.

The enterprise architect requires a number of skills common to the traditional role of the systems librarian, such as systems analysis, data structures, database design, and vendor management (Wilson, 1998, pp. 65-66). An awareness of the strengths and weaknesses of open source software is essential to the modern enterprise system landscape. Libraries actually have a head start here—we have supported the open source software movement for some decades through our digital libraries (Greenstone); repositories (DSpace, Eprints and Fedora, to name a few); discovery layers (VuFind); and integrated library management systems (Koha and Evergreen).

In addition to systems librarianship, it is also possible to draw a comparison between enterprise architecture and information organisation. Both require an understanding of types and structures of information. Being able to recognise how information (and data) flows through an organisation is essential to effective management of its enterprise architecture.

Librarians have been applying authority control on author names since 1647, when the Bodleian librarian grew frustrated with the numerous spellings of Shakespeare’s name, and filed them all under a single entry in his library’s catalogue (Weinberger, 2007, p. 67). Name authorities are just one form of controlled vocabulary that exists in libraries. As we have
understood for a long time, common terminology enables more effective retrieval. Since the advent of user interfaces, we have also seen how implementing controlled vocabularies in dropdown menus can make it easier for users to choose from or enter a set of predetermined metadata elements. For creators, this decreases the effort required to add descriptive elements to new information (Fried Foster & Gibbons, 2005); (Koppi, Bogle, & Lavitt, 2004); an activity which in turn aids searchers in their quest for information.

Enterprise architecture has a companion concept in the common information model. These models enable data exchange between distributed systems (Quirolgico, Assis, Westerinen, Baskey, & Stokes, 2004) and simplify integration between applications—in essence, to ensure that when enterprise systems talk to one another, they use the same term and have a common interpretation of its meaning. This benefits the organisation by making it easier and cheaper to add or remove individual systems (Fulton, 2005, p. 78) from the enterprise architecture (think Lego) without dismantling the whole stack (think Jenga). It seems likely that the need for these models will become even more pressing as enterprise systems move to the cloud and are no longer hosted, managed and controlled onsite.

The need for and value of common information models is recognised by technologists, but the creation and maintenance of these ontologies is a role they may look to libraries to perform. One of the authors of this chapter has developed such a model to aid enterprise architecture practice at Swinburne. Any librarians with a background in metadata and taxonomies, an understanding of systems, and familiarity with the organisations in which they work, are equal to the task.
Librarians of the future should be looking for roles that bring together all their strengths and areas of expertise, as repository work did in the 2000s (Parker, 2008). The technology strategies of our universities reveal a focus on ensuring return on IT investment, including the issues surrounding the move to cloud hosting of enterprise systems. The shift to cloud infrastructure for large technology-hungry organisations like universities requires skilled contract negotiators. It also requires information professionals with a sound understanding of data retention and intellectual property issues. Librarians who have been working in repositories and other digital libraries will be well placed to step into these roles.

Let’s get physical

So far in this chapter, we have focused on where academic librarians might be able to find new roles that make use of their existing skills and expertise. But what about traditional roles that can be expanded to meet the needs of a future generation of library users? While it is certainly true that requirements for in-person reference services and book loans have diminished over the past few years (Martell, 2007), library physical spaces are still very much in use (Bailin, 2011). Libraries are one of the places American parents look at (Fried Foster & Gibbons, 2007) when helping their children to select a college (thereby also selecting where they are investing large sums of money). The library in Australia where the authors of this chapter work is frequently over capacity (McKay & Buchanan, 2014).

What, then, is going on out there in the buildings—and what does it have to do with modern librarians? The issue of library design is seen more and more in the literature—what users want and how to create it. Perhaps the most important work on academic libraries is that of
Fried Foster and Gibbons (2007). They used an ethnomethodological approach to determining what students wanted in an academic library, and how the library fit in to students’ days. They found that the library existed as a sort of ‘third place’: somewhere to go between class and home, and that students used for eating, sleeping, solo study and group work. These same activities are seen in other studies, both in the United Kingdom (Bryant, Matthews, & Walton, 2009) and Australia (Bailin, 2011); (McKay & Buchanan, 2014)—group work and solo work, and social time as well.

When academics talk about physical libraries, if they work in institutions where there is sufficient library space for them to use the library without disruption, they often wax lyrical about a quiet place to read, and (like students) speak about libraries as a ‘third place’ (Stelmaszewska & Blandford, 2004); (Buchanan, Cunningham, Blandford, Rimmer, & Warwick, 2005); (Makri, Blandford, Gow, Rimmer, Warwick, & Buchanan, 2007); (Tenopir, King, Edwards, & Wu, 2009). The academic perception of libraries is much more in keeping with the hallowed halls of academia that nostalgic traditionalists yearn for (Mann, 2008). There is certainly a place for this, but library buildings are also being put to different uses. With an increase in the number of group assignments (Cain, 2013), academic libraries have become a hub and meeting space for this work to take place (Fried Foster & Gibbons, 2007); (Bryant, Matthews, & Walton, 2009); (Bailin, 2011); (McKay & Buchanan, 2014).

Things have changed, it’s true: it is a rare day that the reference desk will get a more complex question than ‘where is the toilet?’ or ‘can I borrow a stapler?’ (Henry & Neville, 2008). But there is still scope for librarians to interact with users in the management, design and arrangement of physical space. Indeed, this activity is a key part of the first law of the new
librarianship—‘libraries serve humanity’ (Crawford & Gorman, 1995, p. 8). Library spaces now need to serve users, rather than serving books or librarians.

It is true that librarianship as a profession has primarily focused on connecting users with the right information (Dalrymple, 1984); (Hjørland, 2000); (Wolfe, Naylor, & Drueke, 2010). However it is also true that librarians have, by default, been making decisions about physical spaces for as long as libraries have provided spaces to study and work—a very long time indeed. For many the new librarianship will mean finding different ways to be a part of the information pipeline, however some readers of this chapter may find more appeal in creating and managing physical spaces.

There is certainly plenty to do in this field: the concept of ‘learning spaces’ is gaining more and more attention on campuses where in-person classes are held (Oblinger, 2006), and (as we have discovered in our own library), even online-only students sometimes come in to use the library’s physical space. Librarians have been in charge of ‘learning spaces’ since before they got their inverted commas, so we are well placed to contribute to the discussion and the discipline around these, provided we are willing to engage with and listen to the users of those spaces.

While our most common mental picture of a library is solo study carrels, perhaps with green lamps if we are being particularly romantic, things have changed, and libraries have to change to meet changing needs. We have recently completed an evaluation of the use of Swinburne’s library space over the course of an entire academic term, including exams. We did not speak to students as part of this, however we observed how our library spaces were being used, and counted things like group work and devices in use. We rounded this study out with
some close observations of group work; solo study is fairly well understood, but group needs are still a bit of a mystery. Despite librarians being well positioned to do this study, it was, in fact, a pair of computer scientists that did the work—albeit computer scientists with an interest in how humans use technology.

In contrast to the romantic vision of solo scholars with green glass lamps, we found that our library is a hive of very modern activity (McKay & Buchanan, 2014). Yes, 7% of our users were using books exclusively (a number that drops to 3% when we look at people in groups), but 30% of people were working in groups, and 43% were using technology they had brought with them into the library.

One of the big changes in library space, then, is that the new library needs power, and lots of it. We observed a number of students carrying multiboxes so that they could power all their devices, and a single user identified, in an ad-hoc conversation, six devices she was carrying that needed regular charging. No, the new librarianship does not require an electrician’s certification, but it does require an awareness of the devices users carry, the ways in which they use them, and the furniture required to support this. The particular configuration of devices and power is likely to vary, according to the user population at each library, and the landscape is changing. Fried Foster’s work in 2007 (Fried Foster & Gibbons, 2007) found only a minority of students carrying large, heavy and expensive laptops to the library. Our study in 2014 suggests a shift.

The other big change from the traditional library to the modern library is the presence of group work, and the social and physical changes this imposes on a library. In terms of the social, there are conflicting pressures on libraries: some users want silent (or quiet) space to pursue solo work, and others want a place to meet and socialise. This has been seen repeatedly in studies of
libraries (Bailin, 2011); (Bryant, Matthews, & Walton, 2009); (Fried Foster & Gibbons, 2005), and our observations bear this out. The balance between social space and quiet space is probably wrong in our library at present: our silent spaces reached capacity long before our group spaces (McKay & Buchanan, 2014). However, we would not have known this without our investigation: other libraries may well be different. We also know that, like in the literature, user expectations are often not met, and like at least one library in the literature (Bryant, Matthews, & Walton, 2009), our users will not self-police quiet spaces. Librarians, particularly those who have worked in a number of libraries, are likely to be extremely well placed to analyse what works and what doesn’t to create social norms around physical spaces.

In terms of the physical, the new discipline of learning spaces is largely focused on group learning spaces. We are fortunate to have a group learning space here at Swinburne, one designed by educators (Lee, 2009) (see Figures 2–4).

<Insert Figure 2 here>

<Insert Figure 3 here>

<Insert Figure 4 here>

This space, as we observed in our study, works really well: it can be full to capacity without feeling overcrowded or chaotic. It does not meet all users’ requirements, however: we also have a number of honeycomb patterned desks with in situ desktop computers (see Figure 5)
that were commonly used by pairs to take advantage of the privacy afforded by the walls of the honeycomb, and the shared large display and computer.

<Insert Figure 5 here>

When we went back and looked at our data, we realised that laptops are private devices used only by their owners. This insight snapped into focus when we felt, on witnessing the single incident of laptop sharing we saw during our study, that we had witnessed an act of intimacy unseen at any other time. Nonetheless, the privacy of laptops is a hindrance to larger groups who want to both control their own laptops and share working: large screens help for viewing, but do not allow shared control. Again, this is a norm in our library (and one that is not supported by our physical spaces) but other libraries may be different.

Librarians’ relationships with physical space are also changing. Librarians are no longer ‘shushers’, and physical spaces are no longer merely conduits to information, nor are they silent institutions of private scholarly reflection. Just as librarians are trained to handle information, many experienced academic librarians will have insights into the management of the physical spaces that used to be so utterly inseparable from the information. These spaces remain a key part of the academic experience for many students, even if they are getting their information from a screen. Ensuring that we serve our users, rather than the other way around, is a core principle on which librarians should act, now and in the future.
Understanding and respecting knowledge in all its forms is an expectation of the second law of new librarianship (Crawford & Gorman, 1995, p. 8). Many theorists have attempted to define knowledge, with varying degrees of success. Ackoff, cited in Rowley (2007), perhaps comes closest by arguing that there is a distinction between data (unprocessed symbols); information (data with meaning that becomes useful); knowledge (answers the ‘how’ questions arising from information); and wisdom (understanding that adds value to knowledge). For a working definition, though, librarians might best be served by a view of knowledge as information filtered through the lens of our values and experience (Davenport & Prusak, 2000)—information that is ‘actionable’ (Jashapara, 2005), cited in Rowley (2007)).

The discipline of knowledge management is not new to librarians, although it perhaps hasn’t played as strong a role in the past in academic libraries as it does in special and corporate libraries. Knowledge management theory operates on the assumption that there are (at least) two types of knowledge: tacit and explicit. By attempting to record the tacit knowledge that exists in the heads of a few, we can seek to make that knowledge explicit for the benefit of many. Some (Bocij, Chaffey, Greasley, & Hickie, 2003) argue that it is impossible to make tacit knowledge explicit, while others believe that explicit knowledge is simply information repackaged (Rowley, 2007). Nevertheless, we continue to build tools that aim to achieve this outcome, and librarians in the 21st century can make a career from managing and manipulating these tools.

Intranets are used in many organisations to capture and communicate key information about the organisation and its staff. Managing intranets, with their clear knowledge management impetus, is a good role for librarians keen to bring together their strengths in information organisation, search engine optimisation, document management and digital literacy.
A more ubiquitous knowledge management tool is Wikipedia, which seeks to make the tacit knowledge of the world explicit in a free and open way. Wikipedia, like Google, is often dismissed by librarians, who lament the poor quality control of the resource and express concerns about its unguarded use by undergraduate students. Yet many Wikipedia articles are written by experts in the field, and/or by ‘other knowledgeable people to whom deference is paid’ (Sanger, 2009). A 2005 Nature study (Giles, 2005) comparing Wikipedia against reference stalwart Encyclopaedia Britannica found that accuracy rates were much the same across both resources. So it is disingenuous to see a few poor articles in Wikipedia as representative of the whole.

Many galleries, museums, archives and libraries have started taking on a ‘Wikipedian in residence’ (Wikipedia, 2014), a role dedicated to improving relevant content on the online resource, and to building long-term capability within the host institution. Wikipedia, like Google, is not an enemy to librarians unless we allow it to be. We can play an important role in ensuring that the information presented on Wikipedia is correct, up-to-date and referenced properly. Our parent organisations will appreciate us carrying out this work on their behalf to engender a positive representation of their public profile.

Philosopher Lawrence Sanger (2009) argues that the success of Wikipedia poses a challenge to traditional notions and hierarchies of knowledge, expertise and power (though sadly this challenge is not yet being met (Lam, et al., 2011)). As suggested in the second new law of library science, (Crawford & Gorman, 1995, p. 8), an important ingredient of the new librarianship will be respect for the wisdom and abilities of others. Definitive texts on the practice of reference librarianship such as Katz (2002) give the reference librarian hero status and reinforce an air of academic superiority. This comes at the expense of library users, who are
portrayed as bumbling fools who don’t have a hope of finding the right answer because they don’t know the right question to ask. This assertion, as well as being patronising, ignores the failings of the systems we offer users (Borgman, 1996), and is demonstrably false anyway (McKay & Buchanan, 2013). These attitudes are the antithesis of a service culture, and they belong in the same day and age as a building that puts the librarian on a pedestal.

One of the authors of this work is not a librarian; however she is an information specialist. As a user experience specialist, she was hired into a library to focus on what end users need, and work out how to make it happen. Her role often means cutting through the kind of traditionalism that makes librarians afraid of Google, and that will, if librarians are not thoughtful and adaptive, spell the end of the profession. We need to be realistic about the information landscape in which we find ourselves. Users no longer require librarians as intermediaries between them and information: they can find things for themselves—a situation they prefer (Fast & Campbell, 2004)—and they often do a very good job (Brophy & Bawden, 2005). Bemoaning changes in our user groups and the systems they prefer only serves to alienate users. Proving our value in academic libraries means setting aside the conventional approaches of the past, and embracing new ideas and professions into the heart of our libraries.

*Computer says yes*

The other author of this chapter (who is a librarian) wrote a tongue-in-cheek article for her professional magazine in 2013 detailing why we need to stop fighting consumer technology and embrace it to build our services and remain relevant (Parker, 2013). The subject of the article
was Google, but knowing when to ‘use technology intelligently to enhance service’ (Crawford & Gorman, 1995, p. 8) is the principle behind the third law of the new librarianship.

The article observed that our expectations as librarians working in a university environment are growing alongside those of our users, and this includes our expectation of search. There is in fact a serious side to the tension between librarians and Google. Librarians of the future (especially those who have worked in digital libraries) are in a unique position to work in fields such as web and intranet content management that benefit greatly from search engine optimisation. Librarians understand how search works, including the relatively-invisible power of Boolean logic. We know through the literature that browse and search are not the same thing, but that they are overlapping information-seeking practices (Marchionini, Dwiggins, Katz, & Lin, 1993); (Kuhlthau, 1999). We also understand the value—and the art—of good metadata: we can assist content owners with creating logical navigation structures and building successful content based on effective use of keywords. We can do all these things, and do them well—but to be effective, we will need to let go of the ‘them and us’ dichotomy of Google versus the librarian.

Google will only be an enemy of libraries as long as we believe we’re in competition. Librarians spend a lot of time teaching users not to trust Google, yet we’re keen to implement discovery layers that we value for their ‘Google-like’ search. Why do we want to replicate the Google search experience instead of just making it work for us? Institutional repositories provide a clear business case for the value of teamwork between librarians and search engines. The research collections librarians curate through these tools are of great value to people all around the world, but our role in making them available should be almost invisible, and certainly seamless. Thanks to search engines, those interested in research findings worldwide should never
have to know our repositories exist, because these hand-crafted collections are optimised for harvesting by Google, Google Scholar and other services, which will be the entry point for the majority of users.

When we promote repository services to researchers, they will always ask: ‘Is it in Google?’. If the answer is no, we lose significant traction with academics seeking to boost their research profile, as well as an opportunity to prove our worth to our parent organisations. Google is always hungry for content, so we should be ready to feed it ours. Designing libraries with our customers in mind means embracing, rather than rejecting, the technologies they know and love, especially where they actually serve our own ends.

*Didn’t know how lost I was until I found you*

While users have become highly effective at meeting their own information needs, and increasingly use information that is sourced online, there is a gap in online service provision, and it is one that users notice. That gap is browsing. Readers value the chance to find the things they didn’t know they were looking for—the happy accident that constitutes serendipity.

In 2004 a librarian noted the changes that were coming as we moved to digital library services, and she declaimed that serendipity was ‘too important to be left to chance’ (Cooksey, 2004). And she’s right. Whatever the flaws with all the major classification schemes (and there are many, we know this—including their sometimes impenetrability to users (Gorman, 1981); (McKay & Conyers, 2010), the experience of browsing the shelves is one users value (Buchanan, Cunningham, Blandford, Rimmer, & Warwick, 2005); (Blandford, Rimmer, & Warwick, 2006); (Hinze, McKay, Vanderschantz, Timpany, & Cunningham, 2012), and one that savvy users
understand is not replicated online (Makri, Blandford, Gow, Rimmer, Warwick, & Buchanan, 2007). Study after study shows users complaining that online books don’t offer them the opportunity to browse, and that they miss it. For some users this is enough of a reason to avoid ebooks entirely (Hinze, McKay, Vanderschantz, Timpany, & Cunningham, 2012), which is a concern as our collections move increasingly online. This love affair with the shelves is backed up with hard evidence: in both 1993 (Hancock-Beaulieu, 1993) and 2008 (McKay, Smith, & Chang, 2014), co-located books were often borrowed together. Over half of all library users who found one book on the shelves in 1993 also selected another (Hancock-Beaulieu, 1993); in 2013 the same proportion of library users stated that browsing was an important part of their book seeking process (Kleiner, Rädle, & Reiterer, 2013).

Browsing is a core part of the human information seeking process (Kuhlthau, 1999)—it can work in tandem with search, or it can be a strategy in its own right. The gains readers make from browsing are not, at this stage, entirely clear in the literature, though we do have some ideas. Non-bibliographic cues—such as book size (Thudt, Hinrichs, & Carpendale, 2012), dust (Stelmaszewska & Blandford, 2002), and number of copies (Makri, Blandford, Gow, Rimmer, Warwick, & Buchanan, 2007)—help readers determine book relevance for their particular needs, yet catalogues usually only offer bibliographic details (Borgman, 1996). Savvy users understand that shelf location in and of itself may be a relevance cue (Makri, Blandford, Gow, Rimmer, Warwick, & Buchanan, 2007).

The most frequently mentioned benefit of the shelves, though, is the joy of finding the perfect thing without looking: serendipity (Stelmaszewska & Blandford, 2002); (Blandford, Rimmer, & Warwick, 2006); (Makri, Blandford, Gow, Rimmer, Warwick, & Buchanan, 2007); (Hinze, McKay, Vanderschantz, Timpany, & Cunningham, 2012); (Saarti, 1997). Shelves offer
this because they are physical in some ways: readers spy something on the way to the toilet (Hinze, McKay, Vanderschantz, Timpany, & Cunningham, 2012), or check the things others have recently returned (Ooi, 2008); (Saarinen & Vakkari, 2013). The shelves also offer readers the ability to ease into examining books—first touching them, then half removing them, then taking them completely off the shelves—all while retaining the ability to see alternative books at a glance. This behaviour closely matches the definition of browsing Bates (2007) gives; this definition is grounded in human psychology. The shelves are not perfect, however—books can only exist in one place on the shelves (even if they fit neatly into two topics), and users are annoyed by missing, mis-shelved or loaned books (Blandford, Rimmer, & Warwick, 2006). The move to online materials has the potential to make users happier if we meet their browsing needs.

Computer science as a discipline ‘gets’ that readers want to browse: a number of test systems have come out recently that replicate shelves on a large display (Kleiner, Rädle, & Reiterer, 2013); allow users to drag sliders around to explore a book collection (Pearce & Chang, 2014); or give users ‘fun’ browsing tools such as colour sorting and size sorting books (Thudt, Hinrichs, & Carpendale, 2012). Users like these systems, but they are trial systems, and not grounded in a rigorous requirements gathering process.

Librarians have known for decades that users like to browse, and some libraries now offer online browsing systems1. These systems, though, are (again) not grounded in a rigorous understanding of what browsing means.

Librarians have something special to bring to the creation of online browsing: astute users understand that the shelves are organised by librarians, and appreciate this, claiming it as a unique information experience. Librarians, who understand classification systems, should take an
active interest in developing such systems (though we must also respect the expertise of partners in technology, human computer interaction and design). We should also support any online system that aggregates usage data to provide recommendations for end users, as far as we legally can. Finally, librarians can be a source of serendipity too: for the users that we know well, passing along a recommendation of what to read next (when we ourselves have that ‘a-ha moment’) will be experienced as serendipity, provided the recommendation is useful.

Serendipity is too important to be left to chance, and librarians have a clear role in supporting both people and technology to ensure it is not lost.

I want to break free

We are still learning how best to use technology to enhance library services. However, Crawford and Gorman’s (1995) fourth law—‘protect access to knowledge’ (p. 8)—has been very warmly embraced by a generation of modern librarians. Many librarians have strong libertarian views on open access that help drive the development of ambitious information policy.

There have been a number of attacks on openness over the past five years. In 2012, the United States Congress nearly passed the Research Works Act (2011), a bill with the aim of crushing open access mandates for federally funded research. Libraries, open access groups and academics spoke out against the bill and Elsevier withdrew its support for the legislation. In the same year, the UK Working Group on Expanding Access to Published Research Findings released the Finch report (2012), a guide to how the United Kingdom could make more research freely available online.
While any initiative to expand access to scholarly information should be applauded, the Finch report made a misstep by recommending the expensive ‘gold’ option, where authors pay a fee to publish their articles in an open access journal, or more frequently a subscription journal with a paid open access option. This kind of open access isn’t free: it just shifts the cost of publishing from one group to another—in this case, from publishers back to authors, and also to the taxpayers who fund research grants. It also allows publishers to hold academics to ransom. For all research content to be available through gold open access, UK research funders would need to direct a large percentage of existing funding towards publishing articles, instead of funding the research that fuels them. Librarians responded by highlighting that there is a cheaper alternative: authors can deposit publisher-approved versions of their papers into open access repositories. Again, we were at the vanguard, waving the flag and ensuring that the movement continued. We need to maintain this role as advocates of open access to information, now and into the next librarianship.

Corporate information management by its nature involves protecting some information from a public audience, for example where it contains commercially valuable or sensitive information. However this doesn’t mean that librarians can’t make open access principles apply on at least a local level when establishing information policy within our own universities. Librarians who have been working in open access repositories for a while will be familiar with the challenges of making material open. Yet the problem within organisations is quite different—the first difficulty, before dealing with mixed attitudes towards openness, is that the material simply isn’t digital or accessible in the first place. Many information professionals express concern about transitioning to online-only information due to the risk of technology and format obsolescence. While this is a very real concern, there are mitigation strategies available, such as
using open standards and common archival formats. By contrast, managing corporate
information in paper form is costly and volatile. In the event of fire or flood, there is no offsite
backup copy for paper information—the files are simply gone.

Librarians can play an important role in ensuring that corporate information—from the
most ephemeral documents to the most significant artefacts—is well-maintained, discoverable
and accessible now and into the future.

Honouring the past and creating the future

As we have shown in this chapter, academic libraries have been evolving and changing
for decades, sometimes without us noticing: information is increasingly online and open access;
spaces are flexible and user-centred; and the reference desk is quiet. But what is perhaps more
interesting is that librarians have been changing too. Ranganathan’s laws set the standard in the
last century, but the 21st century librarian has a new manifesto, created by Crawford and
Gorman in 1995. The laws of library science for the modern librarian focus on new information
delivery methods; strengthen the role of technology in the practice of modern librarianship; and
offer the opportunity to take these skills into new domains. In short, librarianship has extended
far beyond the four walls of the library.

There will always be a place for people willing to take on a challenge. One of the biggest
challenges we face in the modern age is information chaos: the amount of information available
to us (such as the 300 hours of video uploaded to YouTube every minute\textsuperscript{ii}) increasingly exceeds
our ability to even understand what is there. This is a problem for all information seekers, and
increasingly it is seen as a critical risk to organisations as they lose sight of their valuable
corporate information in the morass. Information is the core business of universities, but we are not always very good at looking after it. Putting some order around information chaos is a time-honoured role for librarians; modern technology offers both the opportunity to do this in novel ways, and the requirement that someone does it. Universities are looking to librarians to occupy this space, and taking up roles outside the traditional remit of librarianship will enable us to extend our reach in the future.

There will always be a role for critical thinkers who understand and respect information in all its forms. Ensuring equitable access to information while respecting and valuing creators is a key pillar of librarianship philosophy, and it will remain so in the future. Technology both enables this respectful sharing and impedes it: information can be transferred cheaply, and there is no technological limitation on the number of users accessing a single document at the same time. Conversely, in the escalating war between publishers and consumers, ever-stricter controls are put in place to protect business models that have no place in the age of technology, and (some) consumers flout the right of creators to be paid for and receive credit for their work. The modern librarian has a place in all this, guiding policy and supporting consumers in their quest for fair access to content.

In this chapter we’ve gazed into the crystal ball, and we’ve found that the future looks very different for libraries. But are librarians an endangered species? Is this the end of the world as we know it? We don’t think so—at least not yet. We’ve weathered many a meteor shower, so it’s likely that we’ll only become extinct if we let ourselves be. But we can’t be complacent. Academic libraries are being challenged by their parent organisations, and users are finding new ways of navigating information without us. The next librarianship will need to see us accepting new skills and new ideas. Because there will only be a role for librarians of the future if we
accept that what was once the ‘scary library’ is now the library we call home. Provided we can accept this, extend ourselves to the places where our information skills are useful, and look at our work with a user-centred lens, we’ll be fine.

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Bibliography


**ii** http://www.youtube.com/yt/press/statistics.html

**iii** For a good example of librarian advocacy on technology and consumer rights see Sarah Houghton’s Ebook User’s Bill of Rights http://librarianinblack.net/librarianinblack/ebookrights/
Figure 1: The Domed Reading Room in the State Library of Victoria.

Image copyright 2014 Dana McKay.
Figure 2: A range of table types in our dedicated group study area.

Image copyright 2014 Dana McKay
Figure 3: Round tables and a glass wall for writing on in dedicated group study area.

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Figure 4: Booth seating in group study area.

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Figure 5: ‘Honeycomb’ style computer seating.

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