



**“As for the future, your task is not to foresee it, but to enable it.”**

*(Antoine de Saint Exupéry)*

**Professor Derek Law**  
University of Strathclyde  
Glasgow, UK  
[d.law@strath.ac.uk](mailto:d.law@strath.ac.uk)

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**Abstract:**

*Libraries run the risk of obsolescence unless they can develop a digitally relevant new philosophy of what they are for. We need to identify the niche which differentiates what we offer, the unique selling point that means we are not competing with Google or Microsoft. Such a philosophy will then determine the approach to users, services, content and our own skill set. The world is increasingly populated by those with different literacies, for whom reading and writing in the way past generations have understood these are becoming optional lifestyle choices and not the normal requirement of the intelligent individual. We must provide services and collections relevant to their needs rather than expect them to change to fit our preconceptions.*

**Changing users**

The world is increasingly populated by the a-literate, for whom reading and writing in the way past generations have understood these are becoming optional lifestyle choices and not seen as the normal requirement of the intelligent individual. It should be understood that a-literate is not a pejorative term, but a recognition of the mushrooming growth of literacies which differ from the historic norm – not better or worse, but different. The notion that the Internet has changed the world and its citizens fundamentally and that the digital natives have arrived is hardly new, but once it enters the heart of the establishment we may perhaps grant a certain gravitas to the belief in such change. Both church and state have reached this conclusion and there can now be little room for the sceptic.

The Catholic Church has accepted that the world has changed. For World Communications Day 2010, Pope Benedict XVI described the role of cyber priests. He proposed a new skill for priests to help in the fight to spread the gospel: 'Go forth and blog' and he urged priests to use all the multimedia tools at their disposal to preach the Gospel. The faith was to be made visible on Facebook and also on the papal website Pope2You.

At almost the same time, the Lord Chief Justice of England has reflected on the growing number of trials affected both generically and specifically by the abilities of the Internet generation and of the need to reappraise the whole concept of trial by jury. He states that people chosen as jurors no longer seem able to listen to sustained oral presentations for hours at a time and then draw conclusions of guilt or innocence. He also notes the growth of situations where jurors are admonished as they attempt to perform independent research, such as using Google Maps to view crime scenes, rather than relying solely on evidence used by lawyers or the police.

This different literacy has its own clear boundaries. The a-literate expect:

- Instant results
- Convenience (which is seen as superior to quality)
- Images are at least as important as text
- If it's not on the web, it doesn't exist
- Cut and paste is a legitimate alternative to original thought
- Just enough material for the task in hand, not everything

Perhaps the ultimate if slightly tongue in cheek application for this literacy is the Ten Word Wiki. Rather like the haiku it attempts to distil if not wisdom then at least information in exactly ten words. Pleasingly, it defines *librarian* as "Superhero who can find anything. Penchant for cats and cardigans", while *book* is "Bundles of wood pulp and [pictures/words](#); doesn't need [batteries](#)". We also know that the average time spent reading an e-article is three minutes. It is then important for libraries and librarians to grasp that they must adapt to these new norms rather than attempt to change users to the old norms.

Although the change in users is often seen as a generational issue, it is in truth a much more complex change and applies just as much to researchers of whatever age as well as students born into a digital world. New forms of content such as JoVE (Journal of Visualised Experiments) or social networking sites/research fora such as OpenWetware for biologists are beginning to make their mark. What is much less clear is who will manage, archive and catalogue these activities as the pioneers move on. This is both a huge challenge and a huge potential opportunity for the profession to deploy traditional skills in novel environments. To this one might add an exciting new role as partners in the management of research. As governments and funding agencies turn increasingly to measuring research impacts, and as evidence grows on how access to publications impacts on research awards, librarians have a huge opportunity to influence institutional success. Everything from the quality of repositories to the quality of metadata to training researchers on how to maximise citations can positively affect the institution and how it is perceived publicly, as well as supporting the individual researcher or department.

## Changing Services

The landscape in which libraries must now operate is a landscape where the maps of the past are of little value but the central tenets of our professional geography remain relevant as fixed points - albeit in need of complete rethinking. Librarians have always had a strong service ethic, but it has always been built around how we support users once they cross the library threshold, whether physical or electronic. In the new landscape, there is a need for a sort of reverse engineering in which successful libraries will build their services around the user's workflow; libraries and their collections must be available to users when and where needed rather than expecting users to visit the library at times convenient to the staff. The Ithaka Report of 2009 makes the unhappy if unsurprising comment that 'basic scholarly information use practices have shifted rapidly in recent years, and as a result the academic library is increasingly being disintermediated from the discovery process, risking irrelevance in one of its core functional areas'. This is just as true of students as it is of researchers, but while academic staff might at least accept that they need librarians to buy materials to support research, students are much more likely to need support services to teach them how to undertake research and to find the relevant materials that the library already owns or has access to. The studies by CIBER show that there are very real needs to be met in terms of training users how to discover the information they might need and that users are not nearly as competent in information management as they suppose.

Libraries were some of the earliest adopters of computing, with a history of systems development stretching back almost fifty years. In truth what we largely engaged in at first was mechanisation of existing processes, but nonetheless librarians were quick to understand the potential of new technology. But it is arguably the case that we misunderstood the potential and impact of the Internet. Huge professional effort was put into retrospective catalogue conversion and libraries poured investment first into Online Public Access Catalogues (OPACs) and then into library websites based on the premise that 'If we build it, they will come'. Librarians imagined a sort of utopia where we were building centrifugal hubs which would attract users to information on how to find information. It was then painful to discover that in reality we sit not at the centre but at the edge of users' digital worlds. Website traffic figures can offer a sobering reminder of what were once called "gold-plated dinosaurs". Users largely bypassed our complicated facilities in favour of the ease of searching which Google provides. It was also almost humiliating to discover how companies such as Amazon or consortia such as Abebooks could aggregate information and services in ways which met user needs rather than offering the user challenges.

It is not at all clear that we have learned the lesson, that if our users don't want it, we shouldn't make it. We need a much more refined understanding of the larger forces at work before we develop specific tools. Some of the signs are encouraging, but some are not. Many libraries and librarians have rushed to become involved in social networking sites, but few have stood back to observe the large societal forces at work. The issue of how online collectivism, social networking and popular software designs are changing the way people think, process and share information, raises such questions as what becomes of originality and imagination in a world that values 'metaness' and regards the mash-up as 'more important than the sources who were mashed'. But such conceptual ideas go largely undiscussed in the professional literature although producing serious thinking elsewhere.

Libraries have preferred to become happily engaged in almost every application from Facebook to Second Life without perhaps considering how service philosophy should change beyond a rather hackneyed concept of being where the users are. As a result individuals become committed to the specific technology as a mechanism for delivering old and existing content rather than considering the underlying values of the application and are reluctant to give up what has often become a very personal investment. And yet there are examples of good practice and good thinking, at least in isolation. Kelly has suggested that the key definers of social networks for libraries are:

- Application areas where users can easily create content
- Syndication/alerting technologies which share news
- A culture of openness which makes content available for sharing and reuse
- A culture of trust which encourages the sharing of content, bookmarks and discussion
- Social sharing services which share images, bookmarks and stories
- And social networking which allows everyone to implement the above.

This kind of conceptual thinking should be a prerequisite which underpins any decision to select from the available tools, or else we run the risk of further littering the web with inactive library blogs, lifeless virtual library communities, tweets which reach only other librarians and out-of-date Facebook pages.

It is clear that social networking (popularly lumped together as Web 2.0) has had a profound effect on the ways in which users communicate and in how they seek information for whatever task is in hand. The danger for libraries is that as they move to occupy these spaces they find that users have moved on to the next space. What libraries must really do is to try and develop a more theoretical or philosophical understanding of their role in supporting users in such environments, irrespective of the particular product at hand. For the moment the approach seems to be to treat these as new spaces for providing traditional information rather than as new ways of communicating. The holy grail in particle physics is the “Grand Unified Theory” which it is hoped will lead to a “Theory of Everything”. There is a dearth of strong philosophical debate in the library profession and perhaps the most important step we can take is consciously to begin the search for our own Grand Unified Theory of Everything.

There is a large literature on digital and hybrid libraries, but librarians remain curiously (perhaps sentimentally?) fond of the concept of library as place. And there are good reasons for this. A library is ‘a place to promote enduring values’; ‘the centerpiece for establishing the intellectual community and scholarly enterprise’; and ‘a place to see and be seen while working privately’. The need for the physical library in the student environment still seems secure, although researchers and academics have long since abandoned the library as a place of first resort, in favour of the Internet. Yet very little thought has been given to the cost of building and maintaining that physical environment. Possession of a library is an unquestioned and therefore uncoded part of the infrastructure of being a university (with the occasional dissenting voice now being heard as grimmer economic realities strike home). Very little thought has been given to the cost of running libraries – beyond staffing budgets – and it is very difficult to acquire data on the total cost of ownership. This is just

beginning to surface as an issue, if only in the light of the green agendas which have become fashionable as institutional budgets have come under pressure. Most organisations top-slice utility bill costs from the total corporate budget, before dividing budgets between departments. Libraries are unusual compared with many departments in that they tend to occupy a whole building. So attributing utility costs to them would be quite straightforward if very unusual. When results can be discovered, they are surprisingly large and should lead us to consider exactly why we spend so much on preserving materials, particularly those materials commonly held elsewhere.

Ironically, universities tend to be places where there is a broad spectrum of ecological sophistication and where academic departments often work on topics such as sustainable design and operations. Even such basic practices as simple as materials recycling and attempts to move to carbon neutral footprints which are increasingly seen in our domestic environments remain far removed from library orthodoxy. Some exciting work has begun on this area and it is very likely that the green movement in libraries will grow as budgets decline. Perceptive librarians will embrace the chance to be campus exemplars.

### **Changing Content**

Content too is changing and there is a need to change direction and embrace a new set of imperatives. We need to lose some of our obsession with digitising the paper we already possess and focus more on the mushrooming and largely uncontrolled boom in born digital material; we need to re-assert our position of trust in the quality assurance of material; we need to rediscover the importance of working together with other libraries in the aggregation of material. Libraries have tended to focus either on purchasing digital content or on digitising the paper collections they already possess. Now it can be argued that the huge growth in the purchasing of electronic journals and e-materials has been in response to researchers needs. Indeed, a recent Research Information Network report looked at how researchers interacted with journal websites and analysed what the impact had been. It concluded that researchers show significant expertise when using e-journals, that they find the information they need quickly and efficiently, and that greater spending on e-journals was linked to better research outcomes. While we are clear on how to manage commercial and digitised content it is odd there has been no substantial professional debate on born digital content and how the huge explosion of such content should be collected, organised, managed and discovered. As a result, academic and research staff increasingly see librarians as managers of the purchasing process rather than collection builders in support of research. Yet collection building and more particularly the aggregation of resources at a system level does demonstrate one of the most important elements we can contribute to a digital future. The always thoughtful Lorcan Dempsey reflects on this in relation to the long tail and links it to classic librarianship:

“It is not enough for materials to be present within the system: they have to be readily accessible ('every reader his or her book', in Ranganathan's terms), potentially interested readers have to be aware of them ('every book its reader'), and the system for matching supply and demand has to be efficient ('save the time of the user'). It is time for libraries to develop agreed strategies for digital collection development. Thus far efforts have been somewhat

piecemeal and have tended to focus on digital repositories. Initially seen as tools for collecting research output, there has been a growing realisation that repositories could be one of the key building blocks of future library development hosting a whole range of types of digital resources. But this has to be coupled with an understanding of a raft of what may seem obvious infrastructural elements to librarians but are not necessarily so to scientists: long term archiving, bibliographic control, metadata, version control, authority control, audit trails, usage data, IPR management, navigation and discovery, delivery and access.”

Libraries have always acquired content which is distinguished because of the collections which are formed, rather than necessarily the value of individual items. The Internet has allowed the possibility of aggregating content from numbers of collections and sources to provide web scale collections. Libraries can then add value through the provision of federated searching, metadata tagging and linking to tools such as Google Maps which can enrich the underlying sources. A large number of projects have dealt with aggregation, usually of content, but also of skills, in ways which attempt to combine resources to meet the needs of users. Each is appropriate in its own context although many motivations are displayed. The key consideration in each is the way in which value has been added and to what extent. The following are good examples of quite different approaches.

The *Europeana Project* is fairly overtly a political project and a European response to the perceived dominance of Google. Partly because of its European Union origins, its key goal is to be multi-lingual. The project brings together the records of over six million cultural objects, appears to use size as its defining goal and is organised by the museum, archive and library communities.

*Project Nines (Networked Infrastructure for Nineteenth-Century Electronic Scholarship)* on the other hand involves a (largely American) scholarly community which has peer reviewed over 600,000 objects collected from 118 sites for nineteenth century scholarship and aims to:

- Serve as a [peer-reviewing body](#) for digital work in the so-called “long” 19th-century (1770-1920), both British and American;
- Support scholars’ priorities and best practices in the creation of digital research materials;
- Develop [software tools](#) for new and traditional forms of research and critical analysis.
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It has strong content but is arguably weaker on information management skills.

*Project Bamboo* in contrast focuses on tools rather than content and involves both the support and academic communities. It aims to be a multi-institutional, interdisciplinary, and inter-organisational effort which brings together researchers in arts and humanities, computer scientists, information scientists, librarians, and campus information technologists to tackle the question: *How can we advance arts and humanities research through the development of shared technology services?* The project is mapping out the scholarly practices and common technology challenges across and among disciplines to discover

where a coordinated, cross-disciplinary development effort can best foster academic innovation.

The University of Texas has chosen a more traditional approach combined with a novel attitude to born digital material for its human rights materials and as a way of meeting institutional academic goals. It is a rare example of collection building being combined with web tools ranging from Google maps to video clips of interviews to add significant value to the originals. It has a clear set of priorities:

- Bulk harvesting of human rights sites from the World Wide Web (WWW)
- Custom harvesting of human rights themes from Internet
- Preservation and disclosure of born-digital documentation

It applies archival principles ranging from selection to dark archiving of material relevant to outstanding trials, e.g. in Rwanda and it relates the collection quite explicitly to the mission of the institution.

### **Changing Skills**

Each of the changes described above has implications for the sort of skills we should expect professional staff to display and possess. We must also remember that by and large the staff who will be needed to manage these changes in 2020 are already in post and even in mid-career. Therefore the most important requirement is to develop a reinterpretation of the role of libraries in the new landscape. There needs to be much better understanding of the value we add to the institutional mission before we can determine the skills and services we should develop. However it does seem safe to say that we need to step back a little from the cult of managerialism which has dominated the decades of growth in the eighties and nineties when budgets, staff and collections burgeoned and grew in complexity. We must develop more identification with organisational goals and even display more empathy with the organisation. The return of the scholar librarian would identify us much more closely with the organisational mission.

### *Academic use*

As research environments become more complex, it seems sensible to explore how far scientists can manage their own infrastructure and how far they need support to manage this, in exactly the same way as estates professionals, human resources professionals and health and safety professionals manage elements of research support. Again there is a huge opportunity to deploy the classic skills of the librarian in novel ways. What seems destined to become a classic case of not managing information happened in 2009-10 at the University of East Anglia where the science underpinning climate change was challenged because the information had not been properly managed. This need to manage information has in some libraries led to a revisiting of the concept of the subject librarian now described as 'embedded'. There is even a neat coinage of 'feral' librarians for those working in librarian positions but without library qualifications. Kesselman and Watstein have suggested 'embedded librarianship is one of the prime tenets of a user-centered library'. It is only by experiencing at first hand exactly how users manage their information, their

information seeking and their workflows that librarians can begin to design and offer services which truly add value and are responsive.

### *Student use of Libraries*

An important OCLC survey should have given librarians pause for thought. It showed that:

- 89% of students use search engines to begin a search
- 2% use a library web site
- 93% are satisfied or very satisfied with this approach to searching
- 84% are satisfied if librarian assisted

This reduction in satisfaction when librarians intervene does not suggest that all the effort going into information literacy training has been productive. This may reflect traditional approaches and what has been called the 'eat spinach syndrome.' When all that a student seeks and requires is just enough information for the task in hand or a short cut to the answer, library staff still insist on showing them how to undertake the task properly. The minatory approach requires the user to do it properly or not do it at all; eat your spinach, it's good for you. This is no doubt well intentioned and worthy but obviously does not reflect what users want. Much more effort is needed to identify then meet user needs rather than holding on to the past.

If librarians wish to be real stakeholders in the teaching and learning process, this will require a fundamental rethinking and refashioning of the concept of user support. The key will be the ability to add value. Not just to manage collections of learning objects; to manage and preserve the wiki and blog spaces; to manage the content links and licensing - these are all well within existing library competences – but to provide the hotlinks and metadata which will allow the user to navigate with ease.

Work by the Centre for Information Behaviour and the Evaluation of Research (CIBER) has clearly demonstrated that users significantly overestimate their skills and their ability to manage information. Students will often give up after their initial searches, assuming they have completed the research process, believing that if it's not instantly discoverable on the Web, it doesn't exist. Easier access to full-text articles and content online also seems to have changed students' cognitive behaviour. Rather depressingly for librarians, such easier access is allied with very short spells of time spent reading the material. Electronic content encourages browsing, cutting and pasting, almost certainly accompanied by increased plagiarism. However, there is more than a suspicion that this is usually done through ignorance rather than malice. Research by the CIBER group is unequivocal in its findings, based on huge volumes of log analysis. The shorter an item is, the more likely it is to be read online. If it is long, users will either read the abstract or squirrel it away for a day when it might not be read (digital osmosis). Users seem to prefer abstracts much of the time, even when given the choice of full text. In short they go online to avoid reading.

Now libraries might argue that they have always embraced a service philosophy. Perhaps the change which is needed is to recognise the requirement to offer what users need, when and where they need it rather than to provide services we think they should have.



## Conclusion

Librarians have the capacity and the curiosity to embrace and employ the latest digital tools and services. Rethinking the concept of service is also well within the competence of libraries. The science fiction writer William Gibson famously declared that the future is already here, it's just not evenly distributed. Each of the applications and tools mentioned in this paper has been adopted, embraced and enthusiastically championed by many librarians. What is less clear is that this has been done as part of an overarching philosophical redefinition of what libraries should be, who they should serve and how, rather than a well intentioned and enthusiastic attempt to modernise an existing product. The fear must be that most libraries are trying desperately to cling to outmoded notions of what customers really want, and are being ever more inventive and efficient in so doing; for there is another, but much less palatable, future for libraries. The story is often told of the end of the typewriter. In 2000, the President of Smith-Corona, at the closing of the company's very last plant, gathered together the remaining employees and told them that on that day, the company had the highest quality product, with the lowest defect rate, greatest customer satisfaction levels and lowest return rates it had ever produced. And then he told them that they had 'perfected the irrelevant'. Libraries too run that risk. There is a wealth of imagination, innovation and inquisitiveness within the library profession. The real challenge is whether the innovators and early adopters can inspire their colleagues to embrace these developments as central to the future of the profession and not have them seem the ephemeral and transient gewgaws of an eccentric fringe. Perhaps even more importantly this huge turbulence in the flows and management of information provides a huge opportunity for libraries and librarians to return to a central and vibrant role within the institution, not as a sort of comfort blanket showing institutional worth but as a force seen as essential to the enrichment of the student experience by broadening horizons and as a force seen as essential to the research process by both underpinning that research and then assisting in maximising its public impact.

Libraries in research universities should occupy a central place in the life of their institutions. The research library of tomorrow needs to be tuned to the digital order while cherishing the materiality of the worlds of print and manuscript which most will still possess. It needs a deep understanding of the heterogeneous disciplinary cultures it serves and possibly even some level of involvement in them, of the heterogeneous digital literacies it supports and it must provide a neutral place of scholarship on campus. It is plural, and must provide scholars with knowledge engineering and born digital content, with serendipitous browsing among printed and electronic documents, and with curated physical treasures in a stewarded environment and it must help to broadcast the outputs of the institution. Disciplinary culture and level of scholarship (from undergraduate to senior researcher) will determine the balance of each of these forms of engagement necessary for each library user. It must understand collecting across all forms of intellectual and cultural expression, and work closely in partnership with other collections on and off campus – archives, museums and galleries – to aggregate and add value. It should embody the universe of knowledge while being faithful to its particular history and the character of its locale, and it should exemplify the academic institution itself – what Anthony Grafton calls 'a still centre of slow, patient scholarly work in a dizzy turning world.'