

Keynote Speech, first RLUK Conference, University of Leeds, 24th October 2008

Information Landscape of the Future - Issues

SPEAKING NOTES

Introductory remarks

Thank you for the invitation to join your conference and give closing speech.

Congratulations on such a lively and engaging conference. That it is the first such conference for RLUK makes the achievement all the more impressive.

Congratulations too on the RLUK Strategic Plan for the next 3 years, and its focus on important themes combining workforce development, advocacy and positioning and key elements of digital library activity.

The British Library has just published its new strategy, taking us up to 2011 with seven priority areas. The strategy can be found at www.bl.uk.

I am very mindful that this is the last session before the conference's final lunch! I would like to offer a few reflections on some of the information landscape issues for our future.

The seven issues I have chosen to cover, not in any particular order of significance, are all interconnected in some way.

Issue 1 – e-science and e-research – life well beyond the document

e-science, e-research and the related data deluge clearly have major implications for libraries, but it remains to be seen how quite what their impact will be and how different library and information services will respond to the enormous challenges.

Jean Sykes of LSE is presently leading a project on UK Research Data Service (UKRDS) feasibility study, which is assessing the feasibility and costs of developing and maintaining a national shared digital research data service for UK Higher Education sector – this is a very important piece of work.

Rick Luce (Emory University) is a key advocate for real engagement of libraries in this area. Near the top of his list he includes repositories, workflows and data archiving, which together enable group to group interactions in sustainable electronic spaces, and within an overall context of intelligent grids, collaborative support tools, new kinds of evaluation methods, specialist social software, and access to a rich range of resources and tools.

The challenge of the data deluge is most closely associated with e-science at present, but is increasingly relevant to all disciplines – the scale of the challenge now being faced is enormous and without precedent. It represents huge

technology, metadata and digital storage challenges, and of course raises issues of long term retention and reuse of data, needing skills of data curation which are currently in short supply.

There are a number of examples of where these challenges can be observed:

- Johns Hopkins University will establish a collaboration of publishers, libraries, and the National Virtual Observatory (NVO) to give astronomers long-term, reliable access to useful data. Incorporating the Web services of the NVO into a digital library framework, this project will provide methods for long-term digital archiving of content that can be used in publishing research in astronomy. The system created by Johns Hopkins and its partners will serve as a model for the preservation and use of high-volume data in other fields
- Once its teething troubles are overcome, the huge volume of data that will be captured from CERN's Large Scale Hydron Collider will pose similar data and publication challenges, with a similar need for accessibility and long term preservation and access.

There are many examples of the challenge across disciplines: systematic biology and botany; bioinformatics and molecular biology; climate change and environmental change modelling, and so on.

Research libraries will have to decide whether and how to engage with these areas of science and increasingly social science, and humanities. There are implications either way, but there is a real risk of libraries being marginalised if they choose not to engage.

In my view libraries do have a role to play in dataset curation, and therefore an active involvement in dataset creation and its metadata and taxonomies. There is clearly a cost and risk from engagement – even assuming you can persuade scientists that digital libraries and librarians have the relevant skills, but if data librarians and data scientists could prove their value then their costs could be built into relevant grant applications. Such investment could in turn attract successful science practitioners into libraries, something which is now very difficult.

This goes well beyond the licensing of scientific information – a role now played and does involve more risk, is expensive and requires investment in skills development and new roles and partnerships.

The British Library has recent experience of revitalising our role in science, and we are continuing the process of renewing our engagement with researchers, particularly using digital content and new online services embedded in research workflows. Let me give you a couple of examples.

The Research Information Centre, workflow software supports the research cycle through a web-based information management tool for project teams, supporting researchers throughout the life-cycle of their research projects. Based on Microsoft's SharePoint software,

it was developed in collaboration with the Microsoft External Research Team and recently beta tested by 25 bioscience research teams in the UK and US.

UK PubMed Central is a core BL offering to bioscience researchers. It provides a stable, permanent and free-to-access online digital archive of full-text, peer-reviewed research publications. Launched in January 2007, it has some 1.4 million articles, and an average of 36,000 publications are downloaded each month. We are working in partnership with the National Institute of Health in Washington and the European Bioinformatics Group, thus gaining skills in data mining, taxonomies and informatics.

Issue 2 – Web 2.0 and Web 3.0 – beyond the technologies

The second issue I would like to examine is Web 2.0 and Web 3.0, and the deep changes which run beyond the technologies.

Many of us have become quite excited by the potential of Web 2.0, its new capabilities and opportunities for service development. Web 2.0 offers the chance to transform our interactions with the internet, from relatively passive Web 1.0 world of interactions between individuals and information – our traditional paradigm that is still the core comfort zone of the profession – to a world of sharing, or collaborative content development, of group working and social networking, with its blogs, wikis, user tagging and pod-casting.

Charles Leadbeater, a leading authority on change and innovation who has spoken and written much about the future of internet, addressed a recent meeting of The British Library's Board. His book, We Think is a catalyst for thinking of the Web as a platform for mass creativity and innovation. He suggests that the internet may give us radically different options for how we might organise ourselves - different ways that are likely to be more collaborative, with lower barriers to entry, and are more participative. The web offers innovation and knowledge sharing at huge scale, involving both professionals and amateurs. He challenges universities and libraries to re-invent themselves in this new environment.

But of course we also need to think beyond the transient technologies of Web 2.0 and Web 3.0, and even see what deep changes lie beyond the technology.

We need to deal with the emergent genre of authorship that has come about because of the web, new ways of expressing things in an interactive space and how this becomes multi-way communication and engagement. All this challenges traditional views of peer review, authority, mediation, and authenticity and indeed the role of the professional and the knowledge value chain.

Blogs, wikis, twitters, web-based community databases, Facebook groups - these are all part of the rich fabric of creation – everyone is an author, a commentator and a contributor – as much a part of the nation's memory as traditionally authoritative and mediated formal publication.

My advice would be to get involved with wikis to develop interpretative content around your collections; engage specialist academic and expert communities around our catalogues and truly open up libraries to many voices, diverse perspectives and academic debate.

This is as much a challenge to the role of the academic community as it is to the Library, and we each have to find new roles and opportunities in this messier, more dynamic and democratic world. It challenges the brand of a research university and a research library - we are indelibly associated with authenticity, independence, and long term quality – all this does not sit comfortably with the wiki view and the beta mindset of the digital world.

Issue 3 - the future of special collections is bright.

Mass digitisation efforts are well known, perhaps in particular those by Google, but there are also many traditional players at work in this field, including the major microform aggregators and the major university presses.

The demand and changing expectations of users as default assumption becomes to both access content digitally and to assume that all content can and should be available to them in digital form, without the necessity of going to physical library. Some would argue that the availability of masses of digital content encourages more interest in materiality, and that the one does not replace the other.

The British Library's partnership project with Microsoft to digitise 19th century literature and make it freely available via the Microsoft Live search portal was unfortunately brought to an early end when Microsoft decided to cease its book digitisation programme. It did however result in a good corpus of English literature (classics and hidden gems) becoming available through our catalogue and elsewhere.

A focus of the BL's new strategy is on digitising its newspaper collection. A competitive dialogue process is in progress, with the aim of creating a partnership with the private sector, working with imaginative business models for long term sustainability and scale – there are some 750 million pages! JISC support for HE and FE communities has already resulted in three million pages 18th and 19th century newspapers being made freely available online, providing a rich information source, and fantastic search and interpretive opportunities.

BUT what about special collections? We all have them and believe that they represent a distinguishing feature of research libraries to bring into the digital domain and enrich scholarship, particularly in the humanities and social sciences. I was sorry not to hear Alice's talk yesterday but I am sure that it was inspirational in confirming the importance of special collections – arguably their time has really come!

The British Library continues to look at new ways to exploit its unique collections for research, as teaching and learning resources, and for the public benefit.

The hugely popular *Turning The Pages* digitised books have brought global prominence to treasures which were once for the eyes of the privileged few. The British Library's online gallery provides access to Mozart's musical diary (complete with 75 audio clips), the Diamond Sutra (the oldest printed book), and the Luttrell Psalter, to name just a few.

Digitisation has also enabled the re-unification of collections and items that were conceived together, but have become physically separated across the world.

We have two great BL examples: the International Dunhuang Project which is a long-standing international project led by the BL to conserve, catalogue, digitise and research the materials and artifacts from 100BC – AD1200 which were found at Dunhuang and archaeological sites along the ancient Silk Road. It has centres in London, Beijing, Dunhuang, St Petersburg, Berlin and Kyoto – it is an unrivaled scholarly resource but one which is increasingly of interest to the general public as Silk Road modern day travellers become more fascinated by the culture and heritage of the region.

Secondly, the Codex Sinaiticus Project is re-uniting digitally this 4th century codex, one of the two earliest Christian Bibles, in Greek and containing the earliest surviving copy of the complete New Testament. This digital scholarship project, again led by the BL has partners at the National Library of Russia in St Petersburg, St Catherine's Monastery in Sinai and Leipzig University. This project includes major preservation work, provenance research, scholarly interpretation – which may well change the face of biblical studies across the world. The recent launching of the project Website has attracted enormous interest – on the day of its launch the website received 71,891 visits.

I could go on at length but my message is that opening up our special collections, individually and in collaboration with others is a critical contribution to scholarship and research and will distinguish research libraries and their role in the 21st century.

We should also be considering what the special collections of the future might be. We are involved in an important project called **Digital Lives**, working with partners from SLAIS at UCL and the Centre for IT and Law at the University of Bristol. This major, AHRC funded research project is focussed on personal digital collections and their relationship with research repositories. It is studying how modern personal digital collections are being created, managed and made accessible; it is exploring the needs and views of potential scholarly users of future personal digital collections, such as biographers and historians, and is assessing how to manage the challenges associated with all aspects of curation, methods of transfer from individuals to long-term repositories; confidentiality and professional ethics involved, and access and long term preservation of these new kinds of primary source materials.

So I would urge you all to develop your own digitisation strategies, including for special collections: – mass digitisation provides comprehensiveness and opportunities for data mining and textual analysis; special collections provide extraordinary access and research opportunities for primary source material sharing and reconnection; iconic items gives wonderful visibility and public

endorsement and born digital equivalents are critical for future scholarship and research.

Issue 4 - Intellectual property and copyright – future directions

There is no question that existing copyright frameworks are simply not fit for the digital age. So the question is: do we leave it to the nerds and the suits to fight it out.....disaster; or do we get involved at a serious level for the sake of the future of education, research and democracy?

The debate so far has been too focussed on teenagers, music and consumer industries, yet protecting exceptions in copyright law in a digital environment is fundamentally important for society, culture and the economy of a democracy as depending on how and where exceptions are allowed, they can facilitate learning, research, education and the reporting of news as well as support artistic and literary criticism, just to mention a few areas. Copyright exceptions for private study and research are taken for granted in the analogue world, and these must not be carelessly sacrificed or more restrictively interpreted in the digital world.

Yet how many of us as Directors of research libraries can hand on heart claim sufficient knowledge of the issues to debate and argue in depth? How many people here are aware of the EC Green Paper on the knowledge economy and copyright?.... it is open for consultation until the end of November.

But we are making some progress. Under the auspices of the i2010 European initiative on digital libraries, run by the Information Society and Media Directorate, important reports have been completed on digitisation and copyright, orphan works, model licences for digitisation and public/private collaboration in digitisation activities. All these documents are central to our digital library developments.

In my view copyright in the digital age will remain a battlefield for the foreseeable future. With little consensus in national or international settings, it is likely to constrain progress on digital library developments and even more importantly constrain innovation and creativity that harnesses exceptions. It must be a core responsibility for us all to argue for an appropriate balance of interests.

Issue 5 - Information literacy for the 21st century.

This is a topic which I know exercises all of you with your close involvement with students at all levels, and certainly I believe it is a theme which unites all information professionals and provides an excellent platform for advocacy and societal contribution.

Reinvention of information literacy has come to the fore recently for me with the debate around the information behaviour of the researcher of the future, or the Google Generation, conducted by Ciber and commissioned by the BL and JISC, and now available in a thoughtful monograph edited by David Nicholas and Ian

Rowlands, called Digital Consumers, reshaping the information profession (Facet Publishing, 20008).

The Google Generation teenagers, who are fast approaching university life, have not lived without the Internet, and there are at least signs that they have significantly different expectations of services of all kinds, including digital libraries. Sir David Melville, Chair of the UK Committee of Inquiry into the Changing Learner Experience, says that debate is moving on from plumbing type discussions relating to options for emerging infrastructure as interactive, collaborative technologies becoming ubiquitous and considered standard by new generation of learners.

The challenge for us is to argue for much more attention to be paid to developing the Google Generation's critical and evaluative skills, and enable them to determine for themselves reliability of information sources. The CIBER report argues that although young people demonstrate an apparent ease and familiarity with computers, they rely heavily on search engines, view rather than read and do not possess the critical and analytical skills to assess the information that they find on the Web. These behavioural traits – bouncing in and out of Websites, power browsing, skimming, viewing and not reading (average time on an online article is no more than two minutes, horizontal, shallow research with very little deep investigation; and so on – are also increasingly becoming the norm for all age-groups, from younger pupils and undergraduates through to professors. Ability to concentrate deeply appears to be a dying skill.

This is I believe an area in which we can work together - as advocates for a joined up approach to what are systemic and growing problems; for integrated programmes – from cradle to grave – across formal and informal education. This is essential if the UK is to remain a competitive knowledge economy with a strongly-skilled next generation of researchers. As Malcolm Read reminded us – all students and researchers will continue to need the appropriate skills and training to help navigate (and interpret) an increasingly diverse and complex information landscape.

I believe that academic libraries have led the way in information skills training and that together we can raise the political awareness of the importance of information literacy in the 21st century and seek to engage all parts of government in taking this topic seriously.

Issue 6 - Digital preservation and long-term access

We hold a collective responsibility for digital preservation, or as I argued at the recent international iPres conference¹, for ensuring perpetual digital access, access for ever.

Digital preservation has moved into the public realm of interest – through digital photography, digital memory, digital lives. Digital preservation affects everyone, whether they know it or not.

¹ iPres Conference, 29-30 September 2008, www.bl.uk/ipres2008

Every citizen, enterprise and institution is now, to a greater or lesser extent, an information producer or aggregator. For most businesses digital now rules, with everything from correspondence to the company accounts held only on computer servers. For individuals this might include the digital family photo collection or the switch to on-line bills and bank statements.

The British Library and other research libraries are fortunate to hold the archives of many major figures of our past and present, and the value of these is often in the personal material such as letters and diaries. The cultural, political and scientific giants of today are increasingly communicating via email and maintaining their diary or lab notebooks in a PDA, creating temporary information that will not be available to the researchers of tomorrow. Hence the importance of our **Digital Lives** project, mentioned earlier.

The changing nature of electronic communications was recognised last year when the British Library joined with Microsoft to launch '**Email Britain**' – a one month campaign asking the public to make email history by forwarding a memorable or significant email from their sent mail or inbox, for inclusion in a digital archive that will be stored at the British Library for future generations. This captured the imagination of the public who chose to contribute in droves. No doubt a call for Facebook group 'archives' would be greeted with similar enthusiasm.

The British Library's ongoing Web Archiving Programme is focusing on the Library becoming the point of first resort for a comprehensive archive of material from the UK Web domain. Since 2004, the British Library has led and participated in the UK Web Archiving Consortium initiative, and worked with other key UK organisations to build an archive of web resources of scholarly, cultural, political and scientific importance. It is expected that in the near future the legal deposit legislation will extend through the regulation process to include web publications, and the BL and other legal deposit libraries will no longer need to obtain permissions from the websites' owners for the purpose of archiving and long term preservation.

In many ways I was most encouraged by the recent iPres conference on digital preservation. My reflection is that we have moved already through several phases of engagement. Firstly in the gestation of the DPC we were focused on raising awareness of the issues in the political arena; then we moved on to funders, while at the same time building up networks of professionals working on solving the difficult technical and policy issues.

We have now I think moved into the mainstream public commons, where because of the importance of digital devices in their own world, citizens have much more interest in and engagement with the issues – they want their piece in family posterity at least. This is deeply encouraging and it is for each of us to decide upon and position our own libraries and institutions in the spectrum of roles needed to ensure that the intellectual memory of nations, institutions and individuals is preserved and accessible for the future.

Issue 7 - People and skills

The golden thread of all I have said so far is the contribution of people – our profession, with all its faults – with the right skills and the right motivations. This has been a core theme throughout the conference and particularly in the sessions on leadership, so I will not dwell on it here – the topic is so important that it would need at least another talk. We should reflect that many of our best leaders and potential leaders are in this room – we need to nurture and develop talent to ensure that we can meet the challenges that we know face us and the next generation of leaders.

Closing remarks

Some trends seem relatively clear on this next phase of our journey: There will be:

- Even faster product innovation and change
- Public and private sector partnerships are more necessary, not least for sustainability of service (grants are for start-up not for sustainability, as Kevin Guthrie, President of the US-based Ithaka, puts it)
- Collaborative solutions are needed (Lorcan Dempsey has talked a lot about system-wide efficiencies and shared services). I see the **UKRR** shared initiative and **Ethos** as two good examples which we at the BL are working on with you all. Our challenges are national and international and need creative thinking for innovative service delivery.
- Open innovation and the participation of expert amateurs is increasingly important – businesses are increasingly drawing their customers in to solving business problems; volunteer effort is seen as integral to software and computer games development. Expertise resides way beyond the academy.

I have touched on just a few aspects of the information environment we are moving in to – this complex, more visual, richer environment is becoming an expectation, a norm, and an integral part of world class research and scholarship.

We in research libraries have choices to make: leave it to others and remain boxed in; do print and print-like things and be good at traditional Special Collections, and leave someone else to take the risks and have the expense of real engagement with the new scientific endeavour. We can let copyright wash over us and our successors will live with the lock-down consequences of our inaction, our inability to articulate the argument for public good and open innovation.

We can

You get the message.....the choices we in this room make are critical for the future shape and role of libraries, and it is certainly not about a comfortable work/life balance.

It is about immersion, pushing the boundaries, leading debate and action.

And indeed with all these challenges what will be the nature of the future university over the next 10 years or so. At the end of last year David Eastwood, CEO of HEFCE, gave a speech to the AUA Conference at which he raised the challenge of nothing less than the future of the university in an age of free open access to knowledge, including increasingly knowledge generated by the academy (MIT, OU, etc.). He envisages a system which will evolve dramatically in the next decade, a system under immense pressure, a system in a context of democratization of knowledge, where knowledge has never been so freely available but (his words) **understanding** so tantalisingly elusive. If, as some think likely that all knowledge will be digital and freely available by 2025, what exactly is the role of the university, what is the role of the research library?

Opportunities exist for real and vocal leadership in shaping this emerging space, shaping the political economy of higher education, and shaping its interactions with knowledge creation, knowledge ordering and dissemination, and knowledge interaction, ie: a deep role

It is certainly a great time to be the Chief Executive of The British Library, and a great time to be leaders in academic and research libraries. Much is rightly expected of each of us as leaders and potential leaders – it is time to think about the big issues and champion them. Time to work together/collaborate to rise to new challenges and actively create and participate in this roller-coaster future.

Thank you.

Dame Lynne Brindley
CEO
British Library