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IFLA Journal

Official Journal of the International Federation of Library Associations and Institutions
ISSN 0340-0352 [print] 1745-2651 [online]

Published 4 times a year in March, June, October and December

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Publisher

SAGE, Los Angeles, London, New Delhi, Singapore and Washington DC.

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Annual subscription (4 issues, 2010) Free to IFLA members. Non-members: full rate (includes electronic version) £210/\$389. Prices include postage. Full rate subscriptions include the right for members of the subscribing institution to access the electronic content of the journal at no extra charge from SAGE. The content can be accessed online through a number of electronic journal intermediaries, who may charge for access. Free e-mail alerts of contents listings are also available. For full details visit the SAGE website: www.sagepublications.com

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The *IFLA Journal* is abstracted/indexed in Library and Information Science Abstracts, Multicultural Education Abstracts, PAIS International and Sociological Abstracts, Scopus.

Printed in Great Britain on acid-free paper by CPI Antony Rowe, Chippenham, UK



Editorial: Best papers from Milan

Stephen Parker

International Federation of
Library Associations and Institutions
36(1) 3–4
© The Author(s) 2010
Reprints and permission:
sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209360770
ifla.sagepub.com



In this issue of *IFLA Journal* we present the first group of Milan Congress papers selected for publication by the Editorial Committee from 26 papers recommended by Section Committees for possible publication. The chosen congress papers and the other contributions in this issue all focus on the digital environment from a variety of standpoints.

In the first paper, 'New journal models and publishing perspectives in the evolving digital environment', Maria Cassella and Licia Calvi note that the functions and framework of traditional journals, and the publishers' role, are fast changing under the influence of open access and Web 2.0 networking tools. The first part of the paper discusses new experimental journal models, i.e. overlay journals, interjournals and different levels journals, while the second part focuses on the role that commercial publishers could play in this "digital seamless writing arena", concentrating much more on value-added services for authors, readers and libraries, such as navigational services, discovery services, archiving and evaluation services.

The second paper, 'The *Cataloguing Cultural Objects* experience: Codifying practice for the cultural heritage community', by Erin Coburn, Elisa Lanzi, Elizabeth O'Keefe, Regine Stein and Ann Whiteside, examines the influence of the manual, *Cataloguing Cultural Objects: a Guide to Describing Cultural Works and Their Images* (CCO) since its publication in 2003. CCO is a manual for describing, documenting, and cataloguing cultural works and their visual surrogates. While its primary focus is art and architecture, CCO also covers many other types of cultural works, including archaeological sites, artifacts, and functional objects from the realm of material culture. This paper presents three examples of the implementation of CCO, showing how emerging CCO cataloguing practice has resulted in a significant body of records from the museum and image library communities headed for library/archive/museum integrated access environments. The authors comment

on how cataloguing decision-making (e.g. differing concepts about a 'work') may impact the convergence of records in these environments.

In the third paper, 'Content development in an indigenous digital library: A case study in community participation', Elizabeth Greyling and Siphon Zulu present a case study in community participation in developing content for a digital library of local indigenous knowledge in a South African community. They highlight the interaction between the library, the community and the technology used, discuss the implementation challenges, results and lessons learnt and point out the benefits to the community. The authors conclude that, by providing an online, contextually-based information service to local communities, public libraries in Africa will ensure future-oriented access to cultural heritage resources through 21st century information communication technologies (ICTs). The potential to reduce the digital divide will be enhanced and African communities will be introduced to the global information society.

We return to the field of journal publishing with the next paper, 'Interactive open access publishing and public peer review: The effectiveness of transparency and self-regulation in scientific quality assurance', by Ulrich Pöschl. The author notes that traditional forms of scientific publishing and peer review do not live up to the demands of efficient communication and quality assurance in the world of science of today. They need to be complemented by interactive and transparent forms of review, publication, and discussion that are open to the scientific community and to the public. The paper discusses the principles, key aspects and achievements of interactive open access publishing and describes how the benefits and viability of this approach are demonstrated by the highly successful interactive open access journal *Atmospheric Chemistry and Physics* and a growing number of sister journals launched by the publisher Copernicus and the European Geosciences Union. The author

notes, however, that alternative approaches where interactive commenting and public discussion are not fully integrated with formal peer review by designated referees tend to be less successful.

The next paper, 'Changing visions of parliamentary libraries: From the Enlightenment to Facebook', by Iain Watt, also looks to the future, questioning the "standard narrative of parliamentary library history - that changing visions are responses to the needs of Members". The author proposes an alternative paradigm of Members' information work based on the concept of bounded rationality and 'fast and frugal' decision-making. Rather than focusing on quality of information produced or delivered, parliamentary libraries should focus on quality of information actually used. Improving ease of access to information and focusing on specialist Members may have more impact than incremental improvements of product quality. A focus on core competences and their deployment in new areas of parliamentary information work is one vision for the future.

We turn again to the strictly digital environment with the next paper, 'Not just another portal, not just another digital library: A portrait of Europeana as an Application Program Interface', by Cesare Concordia, Stefan Gradmann and Sjoerd Siebinga. Noting that the general public perceive Europeana primarily as a portal exposing a great amount of cultural heritage information, the authors point out that the main goal of Europeana is rather to build an open services platform enabling users and cultural institutions to access and manage a large collection of surrogate objects representing digital and digitized content via an Application Program Interface (API). The paper discusses some details of the overall data space schema, of the API description and of the Europeana Portal implementation; it also discusses use cases and the mental approach that users, in particular cultural institutions, should adopt to completely exploit the

potential of the Europeana services platform together with a discussion of related risks.

The final paper in this issue, 'Bridging between libraries and information and communication technologies for development', by Rebecca Sears and Michael Crandall, reports on a series of 'bridging' convenings organized by IFLA, the Bill & Melinda Gates Foundation (Global Libraries initiative) and the Technology & Social Change Group (TASCHA), at the University of Washington Information School, which aimed to bring together interested stakeholders in both fields to advance activities that will realize tangible benefits for the library and ICTD communities. Both communities share an interest in the use of technology to achieve their ultimate goals, and there are many areas of commonality that are worth exploring as possible collaborative efforts. The paper proposes a two-level view of the fields, and possible projects in the areas of user services, training and technology are suggested for further investigation.

The main contribution to the Reports Section of this issue also focuses on digital libraries. In 'The Digital Library Futures Conference and the Future of Digital Libraries within IFLA', Ingeborg Verheul, Communication and Services Director at IFLA Headquarters, describes the one day conference on digital libraries organized by the IFLA Professional Committee during the IFLA World Library and Information Congress in Milan. This contribution provides a report on the history, the outcomes and the follow up of this specific event. Also in the Reports Section is a brief report by Editorial Committee member Sanjay Bihani on the International Conference on Traditional Knowledge, held in New Delhi (India) on 13 November 2009.

In her President's Page in this issue, IFLA President Ellen Tise discusses how isolation and information famine are stifling Africa's growth.



The President's Page: Isolation and information famine stifling Africa's growth

Ellen R. Tise, IFLA President 2009–2011

In October this year, I had the honour and privilege to deliver the 2009 Distinguished Mortenson Lecture at the University of Illinois, Urbana-Champaign, organized by the Mortenson Centre for International Library Programs. My President's Page in this issue presents a summary of the lecture, the subject of which is closely linked to my presidential theme, 'Libraries Driving Access to Knowledge'.

Introduction

During the scramble for Africa at the end of the 19th century, European countries staked claims to virtually every part of the continent to tap into its vast natural resources. The withdrawal of colonial expertise and the relegation of the African content to a status of inferiority flung Africa into the throes of deprivation and poverty. For Africa to break out of this spiral it needs to produce its own knowledge that is relevant to its own needs.

Information a contributor to the woes of Africa

Given that reading was alien to Africans, the tool for growth and development, information and knowledge, was clearly absent. This has contributed to growing unemployment and widespread poverty and backlogs in social services. The information famine is a significant contributor to stifling the growth of African countries. Knowledge and information are fundamental pillars for freedom, the exercising of political power, and economic, social and personal development. It is imperative that Africa seeks solutions to alleviate the information famine and integrate Africa into the global economy as a supplier and user of information and knowledge.

Ubuntu and social capital

A significant positive emanating from Africa is the principle of Ubuntu, a philosophy focusing on people's allegiances and relations with each other. There is synergy between the principle of Ubuntu and the western concept of social capital. Human capital (which Africa has in abundance) is one of the most important factors that facilitate development and economic growth. The most valuable asset of a knowledge society is its intellectual capital and African governments must therefore invest in its people.

Content that is relevant

Libraries need to ensure that the information provided is relevant to educate, entertain and resolve local issues. Information alone in many cases does not solve problems. The actual resources, to which the information refers, must also be available. It can be argued that content produced in Africa is potentially of higher relevance than non-African content, but there is acknowledgement that research done in Africa does not always meet the international quality standards set by scientific journals. Relevant research done in Africa often never gets published and is effectively lost to the global body of knowledge.

To contribute significantly in Africa, libraries have to play a functional role in information transfer. To truly accommodate the spoken word and to support relevance, the African library must provide a location and an environment designed to be conducive for an oral information exchange. This oral exchange will address the needs of the illiterates within the community. Libraries must collect, preserve and organize indigenous knowledge and then make it accessible and available to all.

Indigenous knowledge

Africa has a strong oral culture, but its dominance is rapidly waning, with very little effort to collect, preserve and organize it. African libraries have found it very difficult to stoop and draw nourishment from their own people and enrich their environment. The traditional public library has failed to effectively reach the potential majority audience with relevant oral information and knowledge. The lack of conviction to collect, preserve and organize the rich oral culture contributes to the information famine and compounds the positioning of Africa as a marginal player in global knowledge flows.

African national libraries can assume a more diverse developmental role including the collection, preservation and organization of indigenous knowledge, the contribution to the development and appreciation of indigenous languages, the encouragement of the growth of indigenous writing and the production and distribution of locally produced books, especially those with indigenous themes and written in indigenous languages.

Scholarship and publishing

Scholarship and publications are crucial factors in the reduction of information famine and the isolation of a continent that has so much to offer in terms of its rich culture and its abundance of resources, including the human capital and its natural resources. However, studies have shown that researches conducted in Africa and published outside the continent are generally not available to African researchers. Even journals published in Africa have limited circulation in Africa. African universities have difficulty gaining access to scholarly research from neighbouring countries. While acknowledging Africa's challenges with regard to limited bandwidth and restrictions on electricity, libraries must vigorously pursue the issue of making African research output available electronically.

Technology

The revolution in Information and Communication Technologies (ICTs) and the emergence of the Open

Systems movement (Open Source and Open Access) have presented opportunities for African institutions to change the publishing landscape to one that suits their needs and affords them a competitive edge in the scholarly world. Africa needs to climb onto the open access bandwagon. If it continues to wait to have solutions to all of its challenges, the 'information access gap' between the developed countries and the developing countries will widen, which will further marginalize the already marginalized African scientists and scholars.

Without diminishing the significance of technology to break the isolation and information famine, the current realities dictate a proactive library service that allows for the sharing of information at the most rudimentary levels. There is a need to rethink public libraries in Africa, starting with a thorough understanding of the composition and needs of their clientele.

Rethinking community libraries in Africa

Public libraries in Africa have failed to deliver what was expected of them. However, there are new initiatives in community libraries that play a more realistic and meaningful role in providing information to the community. Examples of community libraries which have delivered on their mandate include the Rural Libraries and Resources Development Programme (RLRDP) of Zimbabwe and the Camel Library Service in Kenya.

Conclusion

Libraries in Africa have a substantial role to play in growing the information and knowledge pool and to ensure easy access. For libraries to make such a significant contribution to African scholarship, democratization and empowerment, they must broaden their traditional roles and assume such roles as publishers of information, especially indigenous knowledge which has historically played such a significant role in lifelong learning and cultural development. Libraries have untold opportunities to open channels for the free flow of knowledge and information for the growth and development of the continent.



New journal models and publishing perspectives in the evolving digital environment

International Federation of
Library Associations and Institutions
36(1) 7–15
© The Author(s) 2010
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359559
ifla.sagepub.com



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Abstract

Open access combined with Web 2.0 networking tools is fast changing the traditional journal's functions and framework and the publisher's role. As content is more and more available online in digital repositories and on the web, an integrated, interconnected, multidisciplinary information environment is evolving and Oldenburg's model disintegrates: the journal is no longer the main referring unit for scholarly output, as it used to be, for Scientific, Technical, and Medical disciplines, but scholars' attention is now more focused on the article level. New journals models are thus evolving. The first part of this paper discusses these new experimental journal models, i.e. overlay journals, interjournals and different levels journals. The second part directs readers' attention to the role commercial publishers could play in this digital seamless writing arena. The authors consider that publishers should concentrate much more on value-added services for authors, readers and libraries, such as navigational services, discovery services, archiving and evaluation services.

Keywords

scholarly communication, e-journals, electronic publishing, Open Access, overlay journals

The rise of open content

In 1665 Henry Oldenburg, the secretary of the Royal Society of London, published the first issue of the first scholarly journal, i.e. *The Philosophical Transactions*.

Oldenburg's idea was to create a registry of scientific innovations (Guédon, 2001), to overcome scholars' dispersion, to foster the debate among scholars, to build a scholars' community on scholarly topics. *The Philosophical Transactions* could be valued as a blogs' ancestor, a work in progress, offering ideas, comments on scholarly topics. *The Philosophical Transactions* was not a tool to enhance careers, neither was it a real quality control certification tool.¹ Scholars were not professionals. They were well-off educated gentlemen devoted to science achievements.

Later on the story became much more complicated.

It was after the Second World War that scholarly information became a commercial matter: commercial publishers stepped in as a consequence of the

growing amount of scientific production and quality control in the publishers' hands became a widespread practice. From the Second World War to date the number of commercial journals has increased tremendously. *Ulrich's Periodicals Directory, 2009*, registers 23,973 peer-reviewed journals.

It is worldwide acknowledged that the established commercial journal system accomplishes the following functions (Roosendal and Geurts, 1997):

- *Registration*, which allows claims of priority for a scholarly finding.
- *Certification*, which establishes the validity of a registered scholarly claim.

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- *Awareness*, which allows scholars to remain aware of new claims and findings. This is the function that fosters scholarly communication.
- *Archiving*, which preserves scholarly findings over time.

A fifth function, *Rewarding* is often added to the previous four, as “journal recognition and prestige have a significant impact on the impressions of tenure and hiring committees” (Warner, 2005).

This long established scholarly publishing system is now becoming obsolete and is fast changing.

Although the debate on scholarly changes began well before the advent of the World Wide Web (Gibbons et al., 1994) it is in the evolving digital environment that scholarly communication is changing radically and journals are becoming actors in a completely different story. Changes do not only involve the Scientific, Technical, and Medical (STM) segment but also that of the Humanities and Social Sciences (HSS), although it is true that scholars in the hard sciences grasp digital tools, technologies and resources more rapidly. A solid digital infrastructure is thus evolving in STM as well as in HSS disciplines.²

A set of “disruptive forces” is driving the change in scholarly communication and thereafter in scholarly publishing: technological, economic, distributional, geographic, interdisciplinary and even social forces (Cope and Kalantzis, 2009). However, according to us, one of the major causes of this change lies in the fact that scholarly content is no longer exclusively concentrated in publishers’ hands, but a growing mass of this intellectual knowledge is now openly accessible in digital institutional and subject-specific repositories worldwide.

While it is not in the scope of this article to trace the Open Access movement’s achievements, it seems useful to stress the fact that there are rapid technical, scholarly and social developments in practice in the ‘repositories movement’: a growth in the number of repositories and in the number of e-items archived worldwide.

According to Peter Suber, one of the most active advocates of Open Access, “OA journals and repositories proliferated faster in 2008 than in any previous year. [...] The number of OA repositories grew by 72 or 8% in Scientific Commons, 129 or 14% in OAIster, 271 or 28% in the Registry of Open Access Repositories (ROAR), and by 281 or 28% in the Directory of Open Access Repositories (OpenDOAR). Worldwide, more than five new repositories were launched every week during 2008” (Suber, 2009).

Up to April 2009 OpenDOAR lists 1,375 repositories and ROAR 1,312 while OAIster harvests 1,103 repositories and provides access to 20,678,710 records.

Apart from the number of repositories that have been implemented to date, if we look more closely at the amount of articles available through Open Access in relation to the total number of articles published in 2006 – approximately 1,350,000 – 11.3 percent of usable copies can be found in subject or institutional repositories or, alternatively, on authors’ home pages (Bjoerk, Roos and Lauri, 2009).³

It should be admitted that it is very difficult to generalize scholars’ archiving behaviour across the multiplicity of scientific disciplines: self-archiving practice is adopted heterogeneously among the different scientific communities.

To external observers the percentage of journal articles freely available on the Internet may appear modest and the growth of open access content is certainly slower than OA advocates foresee, but the number of scholarly open access articles (both preprints and postprints) is increasing yearly, as an increasing number of funder, institutional and departmental mandates supports the self-archiving practice.⁴ Subject repositories in particular all appear to be very successful (Cope and Kalantzis, 2009).

The rise of this openly available intellectual critical mass has manifold consequences, two among these appear to be disruptive for the established journal publishing system.

1. From discoverability (through interoperable repositories and search engines) to research evaluation, scholars’ attention is all concentrated on the article level⁵: the vertically-integrated traditional journal model based on the five functions referred to above disintegrates and journals are no more the point of reference for scholarly research. The commercial journal system is becoming an artefact whose value is more related to scholars’ careers than to researchers’ needs. In their daily activity, scholars make tremendous use of preprints and of a vast array of unpublished material: raw data, reports, conference papers, working papers, reviews, but also wikis and blogs.⁶
2. New journal models are evolving both theoretically and experimentally. Many of these experiment with the formula of decoupling content already archived in repositories from the publishing process and functions as in overlay journals and interjournals.

We will now look more closely at these innovative journals experiments, together with a third model: the ‘different level’ journal.⁷ Later we will concentrate our attention on the new role that commercial and learned publishers could play in this evolving scholarly arena.

Overlay journals

In his *Guide to the Open Access Movement* (2003)⁸ Peter Suber gives us a very clear definition of an ‘overlay journal’:

“An open-access journal that takes submissions from the preprints deposited at an archive (perhaps at the author’s initiative), and subjects them to peer review.[...] Because an overlay journal doesn’t have its own apparatus for disseminating accepted papers, but uses the pre-existing system of interoperable archives, it is a minimalist journal that only performs peer review.”

The concept of the overlay journal was first addressed by Paul Ginsparg, the father of the very first digital subject repository, ArXiv. In 1991, ArXiv established a completely new way of managing e-collections by fulfilling the needs of the preprint communication system already adopted by the community of scholars in high energy physics (Goldschmidt-Clermont, 1965). Like all other digital repositories ArXiv accomplishes all the aforementioned publishing functions except certification.

In 1996, discussing the growth of published journals and the drawbacks of the established peer-review system, Ginsparg connected the preprint server content to a certification function which can be performed outside the paper journal. “Any type of information could be overlaid on this raw archive and maintained by any third parties [...] rather than face only an undifferentiated bitstream, the average reader could benefit from an interface that recommended a set of ‘essential reads’ for a given subject from any given time period”. (Ginsparg, 1996)

Later on in the same year Ginsparg granted that learned societies could perform the certification function thanks to new forms of intellectual overlays: “These global archives [the repositories] are not at all incompatible with the filtering role historically provided by the journal system. To the contrary, they beckon for learned societies such as the APS to augment their current roles with new forms of intellectual overlays never before feasible”⁹ (Ginsparg, 1996).

More recently Ginsparg proposes a three-layer multiply-interconnected knowledge network in which journals of the future “can exist in an ‘overlay’ form,

i.e. as a set of pointers to selected entries at the data level [...] article at the data level can be pointed by multiple such virtual journals, insofar as they’re trying to provide a useful guide to the reader” (Ginsparg, 2001).

The very first concrete application of this new model for e-journals also comes from the physics domain.¹⁰ From mid-1996, *Physical Review D* a journal on particle and gravitational physics, used ArXiv to create a preprint overlay, linking to papers that were accepted for the journal but not yet published. Articles were published in a sort of overlaid ArXiv ‘pre-journal’ a couple of months before they were published in the formatted issue (Smith, 2000). The *Symmetry, Integrability and Geometry: Methods and Applications (SIGMA)* journal also defines itself as an ArXiv overlay journal, because “all published articles in the journal have been contributed or will be contributed to the arXiv. In addition, the *SIGMA* website has hyperlinks to arXiv copies”.¹¹ Still referring to the physics domain, Nboj is a post-filter on papers published in ArXiv. It consists of readers rating papers on a five-point scale.¹²

A very interesting example of a successful overlay journal can be also found in the field of medicine: it is the *Lund Virtual Medical Journal (LVMJ)*, published by the Department of Strategic Communication of the Faculty of Medicine at Lund University in Sweden. The original idea behind the *LVMJ* was to enhance “the visibility of ongoing research by the Lund University faculty, with the aim of showing *all* published faculty-authored articles” (Hultman Özek, 2005). Articles for a journal issue are selected from those archived either by the faculties or by the library staff in *LU:research*,¹³ the institutional repository of the Lund University, and from records archived in *PubMed*. The *LVMJ* editorial group concentrates its attention on the final peer-reviewed manuscript version of the articles (postprint).

In all the above examples, the certification function is still performed by publishers in its traditional form, which is quite different from Ginsparg’s original idea; but it is clear that all the above mentioned journal experiments recognize the importance of the preprint archives for their respective research communities.

The relationship between digital repositories, holding and disseminating the content, and the e-journal aggregation level, which performs the certification function, is very tight. Very recently this relationship has been deeply investigated by the Repository Interface for Overlaid Journal Archives (RIOJA) Project.¹⁴ Funded by the Joint Information Systems Committee (JISC) in the UK as part of its Repositories and Preservation Programme and led by University College

London together with Imperial College, the University of Glasgow, Cambridge University and Cornell University in the USA, the RIOJA project started in early 2007 and ended in August 2008 with the main goal of developing an Application Programming Interface (API)¹⁵ to foster automated interaction between the journal software and the digital repositories.

The journal software investigated was Open Journal Systems (OJS)¹⁶ an open source product of the Public Knowledge Project designed for the management and the publishing of an open access journal, while the repository investigated was ArXiv, which is based on the EPrints Southampton software.¹⁷ The astrophysics community worked together with librarians and ArXiv staff to build an overlay journal demonstrator.¹⁸ The commitment of the scientific community was a strategic factor in this study to investigate scholars' views on published journals and their reputation (Polydoratou and Moyle, 2008). The RIOJA project also carried out a feasibility study on the costs and sustainability of overlay journals.

The notion of 'overlay journals' is still strictly based on a scholarly paper-driven journal model in which there is a rigid temporal distinction between the preprint non-refereed version of a paper and its post-print refereed version. But what will happen if a paper becomes a "liquid publication", in the sense of "an evolutionary, collaborative, multi-faceted knowledge object" which leaves the "solid form" of a publication, "written by a closed circle of authors, reviewed and published (typically in print) and that is then "set in stone" in the sense that it never changes from that point on" (Casati, Giunchiglia and Marchese, 2007)? Would it still be possible to discuss the different versions of a scholarly paper? When should the certification function be performed then?

In a few years' time it is likely that a new concept of e-publication will overcome the rigid distinction between the not-refereed and the refereed article versions and therefore quality control might become a continuous function that is no longer performed *ante* (traditional journal) or *post* (overlay journal) the publication of a 'solid' journal, but embedded in the process of production of a 'liquid publication', completely changing the way research results are produced, evaluated and consumed.

Interjournals

In the digital arena it is becoming more and more evident that scholars work in an interdisciplinary manner. As new publishing open access models break down barriers between disciplines and surveys on

journals usage corroborate this statement¹⁹ it is also becoming quite obvious for publishing to explore new interdisciplinary areas. Interdisciplinarity may, of course, affect only the journal content – more articles published on interrelated topics in different disciplines, as in the case of *European Integration Online Papers*²⁰ an interdisciplinary e-journal covering the interdisciplinary field of European integration research – or the journal form, as in the case of *InterJournal*.

*InterJournal*²¹ is a referred journal developed as part of the activities of the New England Complex Systems Institute and covering topics in science and engineering. It does not host full-texts directly, but only metadata and comments. Manuscripts and related raw or processed data, computer programs, video, audio are immediately accessible upon submission into six different categories of publications – General Audience Letter, Professional Letter, Review Article, Article, Brief Article and Report – and then evaluated by qualified referees who access the submitted manuscript and assign an appropriate subject area to it. Authors may decide that access to their articles is limited to referees until the review process is completed. They may also choose anonymity for their manuscripts. Papers are thereafter published in one of three parallel specialized journals: *Complex Systems*, *Polymers and Complex Fluids*, *Genetics*. Each journal has its own editor.

*Philica*²² is another example of an interdisciplinary, or better, multidisciplinary, journal. It defines itself as "an online academic journal accepting publications on any subject. Submitted manuscripts are immediately accessible and anonymously refereed by other professional researchers". Only academics can register and hence publish papers and write reviews. *Philica* is like eBay for academics. The impact of each review depends on the reviewer's rating reviews: the opinion of somebody whose work is highly regarded carries more weight than the opinion of somebody whose work is rated poorly. Moreover, the importance of a given review is affected by:

- Whether the reviewer has a confirmed status. People who have proved that they are bona fide professional researchers are a lot more influential.
- The 'age' of the review. Newer reviews carry slightly more weight than older reviews, to reflect changing opinions towards any given work.

'Different levels' journals

Less innovative than the two previous discussed models, innovative nonetheless, is the notion of the

‘different level journal’. This type of journal does not rest upon content archived in repositories. It is based on the idea of creating a topic-based journal, as a macro-collection structured in sub-collections.

An example of this model is *The B.E. Journals in Theoretical Economics*,²³ a multi-tiered level journal on all areas of economic theory published by the Berkeley Electronic Press. The ‘Advances’ tier publishes articles that make significant advances in theoretical economics. The ‘Contributions’ tier publishes articles on important contributions to specific literatures within theoretical economics. The ‘Topics’ tier publishes articles on specific topics and areas of theoretical economics. Each article is submitted simultaneously for these three quality-rated journals. The editor, after standard peer review, decides in which of the three journals it would be most appropriate to publish the article.

A similar policy is followed by the Berkeley Electronic Press for *The B.E. Journals in Economic Analysis & Policy* (four journals in one) and *The B.E. Journals in Macroeconomics* (four journals in one).

What we may observe from this latter journal model is a trend towards content aggregation and specialization at the same time. This trend is also supported by authors’ and users’ needs. According to Rowlands and Nicholas (2005), authors assign great value to the possibility of being able to reach deeply into a specialist readership for their articles. This could be a good reason for publishers to differentiate journals in analytical tiers.

A new role for publishers

We are now in the early days of these new journal models.

To a certain extent “it is not even clear what ‘overlay journals’ means. If it just means conventional journals implementing online peer review by having submissions deposited on a web site and then directing referees and revised drafts to the site, then most journals are already overlay journal in this banal sense” (Harnad, 2005). This is not the case of ‘true’ overlay journals which should fulfil the fundamental function of certification on repositories’ archived content.

Experiments on new journal models appear so far to be cumbersome, and some of them have not been successful. However, these early experimental journals are dismantling the five-function-based publishers’ role. In particular the concept of ‘overlay journals’ may be troublesome for publishers, as it challenges the last function held firmly by publishers themselves: that of certification.²⁴

If they lose control of scholarly content, what is the alternative left to publishers to continue to play a significant role for the scholarly community? Commercial publishers may:

- Decide to strive to maintain quality control by themselves managing different forms and levels of journals overlaying repositories, possibly by combining the traditional way of performing the certification function with the new Web 2.0 social peer review tools, and by aggregating comments and ratings now flourishing, both in peer-reviewed journals (e.g. *PLoSOne*, *Atmospheric Chemistry and Physics*) and in the informal scholarly environment (i.e. blogs and wikis). For this option, commercial publishers would still concentrate their attention on the certification function.
- Give the qualitative certification control to other parties (learned societies, scholarly communities,²⁵ scientific social networks, OAI peer-review services²⁶ or similar entities) and invest massively in new value-added services, such as, for example, navigational services (Armbruster, 2007), semantic discovery services,²⁷ translation services, archiving (post-cancellation archiving services, long-term preservation services)²⁸ and *ex-post* quantitative evaluation services (bibliometric analysis, usage-based analysis), while giving away the registration, awareness and certification functions. For this option, commercial publishers could adopt ‘lightweight’ business models which should no longer be related to the journal subscription model but to the complete set of services offered, charging both institutional fees and individual fees. Institutions may be more interested in navigational, archiving and *ex-post* evaluation services, while authors may be more attracted towards the translation, navigational and discovery services, besides being interested in obtaining accurate bibliometric analysis of their research work.

We are already seeing some publishers experimenting with value-added services:

*Nature Precedings*²⁹ is an online free service launched in 2007 by the Nature Publishing Group. Scholars in biomedicine, chemistry and the earth sciences can share documents and preliminary findings by posting preprint manuscripts, white papers, technical reports, posters, and presentations. Every document posted in *Nature Precedings* can also be rated and commented upon. *Nature Precedings* describes itself as a complementary service to peer-reviewed journals.

Faculty of 1000 Biology and *Faculty of 1000 Medicine* are two BioMed Central research subscription-based services which allow researchers to rate peer-reviewed articles in biology and in medicine. Each Faculty member can assign a rating choosing from three options: Recommended, Must Read, and Exceptional. Even if informal, the three-point scale rate provides an important indirect complement to the assessment of the journal impact factor and helps disseminate a more comprehensive research evaluation. Both services are very popular among scholars. According to Armbruster (2007) the 2,300 members of *Faculty of 1000 Biology* commented on over 35,000 articles in 2007.

*Living Reviews*³⁰ is a set of five open access refereed review journals: *Living Reviews in Relativity*, *Living Reviews in Solar Physics*, *Living Reviews in European Governance*, *Living Reviews in Landscape Research*, *Living Reviews in Democracy*. The notion of 'living article' was first expressed by Bernard F. Schutz and Jennifer Wheary, who in 1998 started the first journal, *Living Reviews in Relativity*, at the Max Planck Institute for Gravitational Physics. The five journals offer "surveys of recent work, evaluations of the importance and interconnections of results, summaries of important results, entry points into the essential literature, assessments of where new progress is needed, access to web sites and other useful electronic contacts, and databases of the recent literature".³¹

An Editorial Board solicits the 'living' review articles that are regularly updated by researchers to incorporate latest developments in the fields. Authors are encouraged to submit at least an annual update of their review. The new version of the review article is published as soon as it is received, while the previous version remains available on article's history page. The concept of *Living Reviews* is much closer to a service than to a journal. It is an ex-post evaluating service that publishers might offer in the future.

Conclusion

In a few years' time "the 'institutional repository' movement could lead to the creation of many new hubs for scholarly content" (Van de Sompel et al., 2004) supporting a new "global knowledge network" and it will be possible to implement a completely new qualitative and quantitative evaluation research system³² thanks to the freely available content, to the technology 'revolution' and to the spreading practice of social evaluation on Web 2.0.

At the moment the greatest challenge for creating an effective new evaluation system controlled either

by publishers or by other parties is to combine the best of the current scholarly peer-review model, which is still widely supported by academics,³³ and the best of the new informal social networking evaluation approach, the so called 'wisdom of the crowds' of which Wikipedia is the most successful and long-lasting example.

The combination of the two assessment strategies will allow the current scholarly communication system to overcome some of the drawbacks of the traditional paper-focused peer review system (biased, unreliable, expensive, long time required for the acceptance, delay in publication),³⁴ while in the meantime cutting on the costs and finding an effective and scalable way of evaluating the million scholarly papers published and rising every year.

Notes

1. "It was not until the year 1752 that the Royal Society of London adopted a review process such as the one that had been previously used by the Royal Society of Edinburgh as early as 1731". Cf. Ray Spier (2002).
2. On this topic see the thoughtful article by Stephen G. Nichols (2009).
3. Brody et al. (2007) are even more optimistic. They calculated that 15 percent of all academic journals articles were already available via open access in 2007. In some disciplines, however, the percentage can be much higher: Bergstrom and Lavaty (2007) report, for instance, that an Internet search turned up freely available versions of 90 percent of articles in the top 15 economics journals.
4. All adopted mandates are registered in the ROARMAP <http://www.eprints.org/openaccess/policysignup/> It should be remarked that most of them also mandate the deposit of the refereed *postprint*.
5. A plethora of projects is actually concentrating scholarly attention on the article level: i.e. the Article of the Future, a project launched in July 2009 by Cell Press and Elsevier http://www.elsevier.com/wps/find/authored_newsitem.cws_home/companynews05_01279; the Article-level Metrics led by PloS <http://everyone.plos.org/2009/05/27/article-level-metrics-at-plos/>; the Usage Factor study sponsored by the United Kingdom Serials Group to explore articles downloads as a basis for a new quantitative metrics, and its strictly correlated project Publisher and Institutional Repository Usage Statistics (PIRUS) whose aim is "to develop COUNTER-compliant standards and usage reports at the individual article level that can be implemented by any entity (publisher, aggregator, repository, etc.) that hosts online journal articles and will enable the usage of research outputs to be recorded, reported and consolidated at a global level in a standard way". <http://www.jisc.ac.uk/publications/documents/pirusfinalreport.aspx>
6. See on this topic Maron and Smith, 2008.

7. To follow the ongoing theoretical debate on the new journal forms see Paolo Dall'Aglia (2006).
8. <http://www.earlham.edu/~peters/fos/guide.htm>
9. David Shulenburg's proposal (2007) for scholarly monographs is very similar to Ginsparg's idea. For those volumes which do not find market distribution channels Shulenburg suggests that "scholarly societies should form peer-review bodies to examine such work of minor pecuniary value and to certify their scholarly worth".
10. A very early overlay journal used to be *Advances in Theoretical and Mathematical Physics*, which provided only certification. Later on it has become a traditional journal. <http://www.intlpress.com/ATMP/archive/volume04-1.html>
11. <http://www.emis.famaf.unc.edu.ar/journals/SIGMA/about.html#overlay>
12. <http://naboj.com/>
13. <http://www.lu.se/forskning>
14. <http://www.ucl.ac.uk/lis/rioja/>
15. "An application programming interface (API) is a set of routines, data structures, object classes and/or protocols provided by libraries and/or operating system services in order to support the building of applications." Source: Wikipedia <http://en.wikipedia.org/wiki/API>
16. <http://pkp.sfu.ca/?q=ojs>
17. <http://www.eprints.org/>
18. 4012 astrophysicists were also investigated in a community survey conducted for the project. 683 responses were received (a 17 percent return). "Preliminary findings indicate that researchers are, in general, sympathetic to the overlay model, albeit with concerns about the long-term accessibility of the research material, and the quality of the certification process." (Press, 2007)
19. A survey conducted by Mayur Armin, an Elsevier consultant, on the usage of journals in Science Direct, found that while researchers in physics and mathematics use massively journals within their discipline (70 percent or more), researchers' usage of journals in other disciplines, including chemistry and environmental sciences, is at less than half that level. [URL no longer functioning]
20. <http://eiop.or.at/eiop>
21. <http://www.interjournal.org/>
22. <http://philica.com/about.php>
23. <http://www.bepress.com/bejte/ratingsystem.html>
24. As a matter of fact commercial publishers control certification but the function is really performed by scholars who do not receive a remuneration for their work, with a very few exceptions. Costs for peer-review are really shifted to the scientific community, to the institutions scholars work for and to the general public.
25. A community review model has been adopted for the conference EclipseCON 2006 <http://www.eclipsecon.org/2006/Home.do>
26. The idea developed by Rodriguez, Bollen and Van de Sompel (2005) is very innovative: "a deconstructed publication model in which the peer review process is mediated by an OAI-compliant peer-review service. This peer-review service uses a social-network algorithm to automatically determine potential reviewers for a submitted manuscript and for weighting the influence of each participating reviewer's evaluations."
27. We agree with Roosendaal and Geurts' statement (1997) that "value is not anymore in information proper but in its effective and efficient communication".
28. Publishers are already involved in many different long term preservation projects i.e. Portico, CLOCKSS, LOCKSS, E-Depot. In the digital environment publishers share with libraries, foundations, and authors the responsibility for the long term preservation of the digital memory.
29. <http://precedings.nature.com/>
30. <http://www.livingreviews.org/>
31. <http://relativity.livingreviews.org/About/concept.html>
32. In the literature, peer review is often referred to as a form of *ex-ante* qualitative evaluation and bibliometric analysis as a form of *ex-post* quantitative evaluation of scholarly works.
33. According to Mark Ware's survey on peer review (2008) peer review is widely supported by the different scholarly communities: 93 percent of scholars surveyed disagreed that peer review is unnecessary.
34. See on this topic the whole *Nature* debate on peer review, 2006 and McCormack, 2009.

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The Cataloging Cultural Objects experience: Codifying practice for the cultural heritage community

International Federation of
Library Associations and Institutions
36(1) 16–29
© The Author(s) 2010
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359561
ifla.sagepub.com



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Abstract

A body of cataloguing practice has coalesced around *Cataloguing Cultural Objects: a Guide to Describing Cultural Works and Their Images* (CCO) since its publication in 2003. CCO is a manual for describing, documenting, and cataloguing cultural works and their visual surrogates. The primary focus of CCO is art and architecture, including but not limited to paintings, sculpture, prints, manuscripts, photographs, built works, installations, and other visual media. CCO also covers many other types of cultural works, including archaeological sites, artifacts, and functional objects from the realm of material culture. This paper examines the influence of CCO and its implementation in cataloguing settings for the museum and image library community. In drawing together three diverse scenarios, the authors have identified common strategies for particular challenges in each one. The showcase projects include: (1) the development of a de facto standard for contributing cultural and natural history collections to union catalogues and digital repositories by harmonizing the *CDWA Lite* and *museumdat* XML schemas; (2) the use of CCO in the Society of Architectural Historians Architecture Resources Archive (SAHARA) project, a shared online archive of photographs that document architecture and cultural landscapes worldwide – the SAHARA project developed a cataloguing template for use by scholars and librarians; and (3) the application of CCO alongside other guidelines in records for cultural works in library settings. Emerging CCO cataloguing practice has resulted in a significant body of records from the museum and image library communities headed for LAM (library/archive/museum) integrated access environments. The authors comment on how cataloguing decision-making (e.g. differing concepts about a ‘work’) may impact the convergence of records in these environments.

Keywords

cataloguing, metadata, museum objects, cultural works, images, archives, art, architecture

Introduction

Libraries have a long-standing tradition and mission-critical responsibility to shelter, document, protect, preserve, and ensure public access to knowledge and resources. The application of well-established and adopted standards is one way to guarantee that these

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activities are achievable and sustainable. Yet the library community recognizes that the documentation of cultural heritage collections, and the means for facilitating access to them, needs to be extensible or adaptable to reflect the growing demands presented by technology and the possibilities inherent in the networked environment. Cataloguing is an area that is affected by increased expectations from diverse audiences in how collections are discovered, and in how resources are used, and is adapting accordingly, notably with *RDA: Resource Description and Access*¹ as a replacement for AACR2. Significantly, RDA has not sought to reinvent a data content standard for bibliographic access, but rather builds on the foundation and success of AACR2.

In the last decade, there have been many other standards-based initiatives that have not only built upon existing standards, but have also crossed the library, archive, and museum divide in how collections are documented and discovered through the networked environment. One such emerging practice that was created to address the absence of a data content standard for describing, documenting, and cataloguing cultural works and their visual surrogates, and which thoughtfully recognized the limitations presented by AACR2 to fill this void, is *Cataloguing Cultural Objects: a Guide to Describing Cultural Works and Their Images* (CCO).²

The CCO initiative (a project of the Visual Resources Association Foundation, begun in 2001) provides guidelines for describing works of art and is based on the *VRA Core 4.0*³ and *Categories for the Description of Works of Art* (CDWA)⁴ element sets. Unlike those two schemas, however, CCO employs generic concepts that can be used with other metadata element sets (e.g. Dublin Core, MODS, MARC⁵). The cultural heritage community had never published guidelines (like AACR for the bibliographic community) that met the unique and often idiosyncratic descriptive requirements of one-of-a-kind cultural objects. The decisions that cataloguers make when describing cultural works are framed by the cataloguer's perception of how a work of art is defined. CCO is a data content standard intended to inform the decision-making processes of cataloguers and builders of cultural heritage systems. As community-specific metadata standards proliferated, there was a growing awareness that CCO could bridge disparate communities by prescribing common practice for describing cultural works.

Since its inception CCO has been a welcome addition to the corpus of cataloguing codes. Its impact has traversed geographical and organizational boundaries. For example, CCO has been recommended for

use in large aggregated databases, such as the California Digital Library Shared Image Service⁶ and the Mellon ARTstor⁷ digital library hosting program. CCO is listed as one of the data content standards in NISO's *A Framework of Guidance for Building Good Digital Collections*.⁸ International projects have adopted CCO as well, for example, the *Electronic Catalogue of Bulgarian Cultural Historical Heritage*,⁹ the Centro de Documentacion de Bienes Patrimoniales (Chile),¹⁰ and the State Museums of Berlin/Institute for Museum Research.¹¹ And finally, CCO influenced RDA as it was being developed with an awareness of standards for resource description from outside the library world. Emerging CCO cataloguing practice has resulted in a significant body of records from these museum and image library communities headed for LAM (library/archive/museum) integrated access environments. While these new records will improve such catalogues because CCO practice facilitates sharable metadata, legacy records may provide some interesting dilemmas in the same system. For example: older 'flat' records versus hierarchical records for complex works; dilemmas concerning 'of-ness' and 'about-ness'; and differences in the concept of a 'work.' This last issue may be compounded by improper use of FRBR as well.¹²

A new research project, the 'Museum Data Exchange'¹³ is using CCO to help analyze large bodies of data harvested from museum databases. The project is funded by the Andrew W. Mellon Foundation and operated by the RLG Programs of OCLC. Project director Günter Waibel (OCLC) observed,

"While it [the project] uses the same data structure (CDWA Lite XML), all participants are aware that rules to populate that data structure with data content may vary considerably from institution to institution. *Cataloguing Cultural Objects* is becoming a household name, but a good bit of the data shared probably predates the emergence of this data content standard, let alone its local implementation."¹⁴

Let us now look at three diverse implementation settings that demonstrate how CCO can provide a common ground for cultural heritage cataloguing.

The role of CCO in harmonizing cultural metadata: CDWA Lite and museumdat

CCO is unique in that it is poised to address cataloguing cultural works and their visual surrogates independent of the data structures that manage these collections, and regardless of the community that houses these works. CCO recognizes that museums,

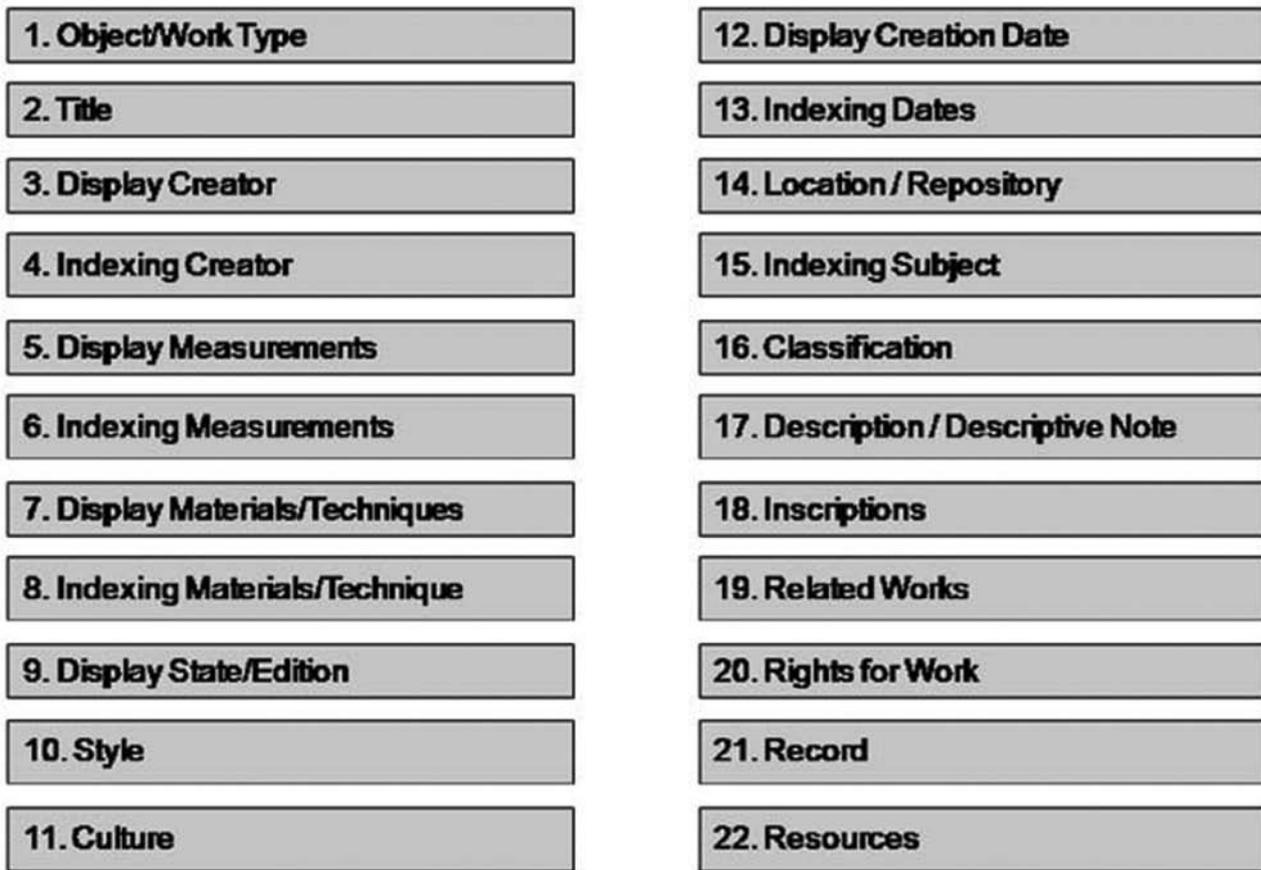


Figure 1. CDWA Lite Element Set.

libraries, archives, and image library collections all contain unique cultural works or representations of them, and have an increasing responsibility to create access to these works in the online environment. Another initiative that recently emerged to address an absence, specifically an appropriate technical solution for facilitating access to unique cultural works in the networked environment, is *CDWA Lite*.¹⁵

CDWA Lite is an XML schema for encoding core records for works of art and material culture. It relies upon existing standards to achieve its objective of a low-barrier way to enable institutions to contribute their collections information to union catalogues. CDWA Lite is based on the data elements and guidelines in *Categories for the Description of Works of Art* (CDWA), a framework for documenting and organizing information on cultural works and images. The specification recommends using guidelines from CCO to assist with selecting, ordering, and formatting data used to populate its elements. The schema and guidelines encourage use of controlled vocabularies and authorities and the delivery and sharing of metadata records follows the *Open*

Archives Initiatives Protocol for Metadata Harvesting (OAI/PMH).¹⁶

This standards-based initiative grew out of an identifiable need in the museum community for a more efficient and sustainable model to contribute collections to union catalogues and digital repositories. The team that developed CDWA Lite recognized the absence of a data structure for unique cultural works with a technical format for expressing that data in machine-readable format. Furthermore, the CDWA Lite team members realized that a solution was needed to eliminate the overhead that is commonly associated with contributing to union catalogues; ensure a method for being able to provide updated, accurate information about works accessible in the online environment; promote the idea that data integrity and accuracy should occur at the primary source or repository of the collection; and create a mechanism for bringing users back to a resource in its native environment, where learning more about a work of art can take place in the context of its larger collection.

The incorporation of existing data structure, content, value, and technical format standards is intentionally ‘lightweight,’ to encourage and facilitate

use even by small institutions in cataloguing, online publishing, and exposing metadata. The result is a packaged solution that makes using standards simplistic. Therefore the potential for the distribution of collections in the networked environment is all the more attainable.

CDWA Lite is made up of 22 elements, of which 19 are for descriptive metadata and 3 for administrative metadata; only 9 elements are required. The elements reflect the core descriptive documentation traditionally captured about works in cultural heritage collections.

A unique characteristic of CDWA Lite is that it creates a division between display and indexing elements, which is consistent with the recommendations of *Cataloguing Cultural Objects*. CCO recommends that certain display data be encapsulated for presentation with the end user in mind. This might involve concatenating values from various fields, or removing certain sensitive information or administrative data for local purposes, in order to achieve meaningful descriptive information for the end user. Furthermore, display fields allow for the expression of uncertainty or ambiguity, which is common with art information. Indexing elements, on the other hand, provide values traditionally from controlled vocabularies or authorities, which ensures consistency and accuracy along with more effective retrieval. With indexing elements, CDWA Lite allows attributes to have a respective URI (termsource and termsource ID), which creates the opportunity for the identification of a term in the larger context of a controlled vocabulary.

An example of the application of CDWA Lite can be described in looking at a painting from the J. Paul Getty Museum's collection, which was harvested according to CDWA Lite by the digital library ARTstor, as illustrated in Figure 2.

This painting contains exhaustive descriptive information in the J. Paul Getty Museum's collection information management system. However, the CDWA Lite schema is not intended to re-create all the descriptive elements for a work, but rather to serve as a minimal set of information needed to facilitate access to a resource in a 'union' environment. In this example, a limited amount of descriptive and administrative information about this painting by Titian was made available to the aggregator (ARTstor). Focusing on the creator information, ARTstor presents the CDWA Lite element, 'Display Creator' in this way:

Titian (Tiziano Vecellio) (Italian, about 1487-1576)

The record that the Getty Museum contributed to ARTstor also contained indexing elements for the



The screenshot shows a web browser window displaying a painting of Alfonso d'Avalos in armor. Below the image is a metadata table with the following information:

Image Information	
Creator	Titian (Tiziano Vecellio) (Italian, about 1487 - 1576)
Culture	Italian
Title	Portrait of Alfonso d'Avalos, Marchese del Vasto, in Armor with a Page
Work Type	Paintings
Date	probably January - February 1533
Material	Oil on canvas
Measurements	Unframed: 110 x 80 cm (43 5/16 x 31 1/2 in.)
Repository	The J. Paul Getty Museum at the Getty Center 2003.486
Related Item	http://www.getty.edu/art/gettyguide/artObjectDetails?artobj=252638
Subject	Commanding Officers Alfonso d'Avalos, Marchese del Vasto
Collection	The Image Gallery
Source	Data From: J. Paul Getty Museum
Rights	For permission to reproduce images for uses not covered by the Terms and Conditions, please contact Rights and Reproductions, Registrar's Office, The J. Paul Getty Museum http://www.getty.edu/legal/image_request.html
Download Size	1024,1024

Figure 2.

Creator, in addition to the display element. These indexing elements are encoded in the schema as shown in Figure 3.

Indexing elements contain information that facilitates search and retrieval, in addition to assisting aggregators with filtering and sorting search results. At the J. Paul Getty Museum, the creator information largely comes from an artist authority file, which is then mapped appropriately to CDWA Lite indexing and display elements.

Furthermore, it is worth pointing out again that the specifications for CDWA Lite include guidelines for how best to populate elements, which are derived

```

<cdwalite:displayCreator> Titian (Tiziano
Vecellio) (Italian, about 1487 - 1576)
</cdwalite:displayCreator>
<cdwalite:indexingCreatorSet>
<cdwalite:nameCreatorSet> <
cdwalite:nameCreator type=' personalName'
termsource=' ULAN' termsourceID='
ulan500031075"> Titian </
cdwalite:nameCreator>
<cdwalite:nameCreatorSet>
<cdwalite:nameCreator type=' personalName'
termsource=' ULAN'
termsourceID=' ulan500031075"> Vecellio,
Tiziano </cdwalite:nameCreator>
<cdwalite:nameCreatorSet>
<cdwalite:nationalityCreator>Italian</
cdwalite:nationalityCreator>
<cdwalite:vitalDatesCreator
birthdate=' 1487' deathdate=' 1576"> about
1487 - 1576 </cdwalite:vitalDatesCreator>
<cdwalite:genderCreator> male </
cdwalite:genderCreator>
<cdwalite:roleCreator termsource=' AAT'
termsourceID=' aat300025136">painter </
cdwalite:roleCreator>
</cdwalite:indexingCreatorSet>
</cdwalite:indexingCreatorWrap>

```

Figure 3. Indexing elements.

from *Cataloguing Cultural Objects*. For example, for the element ‘Display Creator,’ CDWA Lite advises:

Formulated according to data content rules for creator display in CCO and CDWA; may be concatenated from the Indexing Creator elements, if necessary. The name should be in natural order, if possible, although inverted order is acceptable. Include nationality and life dates. For unknown creators, use one of the conventions illustrated in the following examples: ‘unknown,’ ‘unknown Chinese,’ ‘Chinese,’ or ‘unknown 15th-century Chinese.’¹⁷

CDWA Lite has proven to be successful as a low-barrier way to contribute collection metadata to union resources. Its implementation of *Cataloguing Cultural Objects* guidelines has allowed for the concept of a ‘work’ to be properly accommodated in its framework, and furthermore properly positioned for integrated access opportunities. As a result, materials that address the description of unique objects with shared practices are beginning to converge in the online environment, and especially through resources that are aggregating from museums, libraries, archives, and the image library sectors (LAM).

In the relatively short amount of time that the CDWA Lite schema has been available, a great deal has happened with respect to its use, implementation, analysis, and widespread adoption. New software

called OAICatMuseum, based on the Online Computer Library Center (OCLC) open source software OAICat, was developed to allow for CDWA Lite XML records to be harvestable according to the OAI PMH model, which requires the Dublin Core XML schema as the ‘lowest common denominator’ for harvesting metadata records.¹⁸ Collection management vendors have begun to create mechanisms for exporting CDWA Lite records from their systems and to make them available for harvesting according to OAI PMH.¹⁹ Digital repositories and portals have begun to harvest CDWA Lite records, or to allow for records to be contributed using the CDWA Lite format.²⁰ And various communities across the world have begun to evaluate the relevancy and ease of use of CDWA Lite – for example the MuseFusion²¹ project in Taiwan, and the ‘Museum Data Exchange Project.’ This latter initiative involved collaboration from RLG museum partners to create a suite of tools based on CDWA Lite that help facilitate its ease of use and implementation.

One of the most significant developments with CDWA Lite has come through the Documentation Committee of the German Museums Association in the creation of an XML schema called *museumdat*, which expands upon the CDWA Lite schema in order to be more inclusive of natural history and cultural history collections, and brings the elements in alignment with the event-oriented approach of the CIDOC Conceptual Reference Model (ISO 21127:2006).²² *Museumdat* provides a semantic framework and treatment for events surrounding an object by adding an additional element for events to CDWA Lite, bringing the total number of elements to 23, and then reconfiguring the elements to best represent the events-based approach. However, this schema also reduces the number of required elements to only three.²³

Museumdat is structured into five primary categories, which is in accordance with the CIDOC CRM Core Metadata Element Set. It also brings administrative elements into a category, adds attributes that introduce multilinguality into the format, and provides a mechanism for data conversion control. Aside from these changes, *museumdat* very much maintains the focus and intent of CDWA Lite. For example, the specification document for *museumdat* keeps the guidelines from *Cataloguing Cultural Objects* for populating elements intact, where appropriate, and also keeps the possibility for both display and indexing elements.

The *museumdat* XML schema (Figure 4) was published in 2007 and in a short amount of time has seen a level of adoption and enthusiasm similar to that of

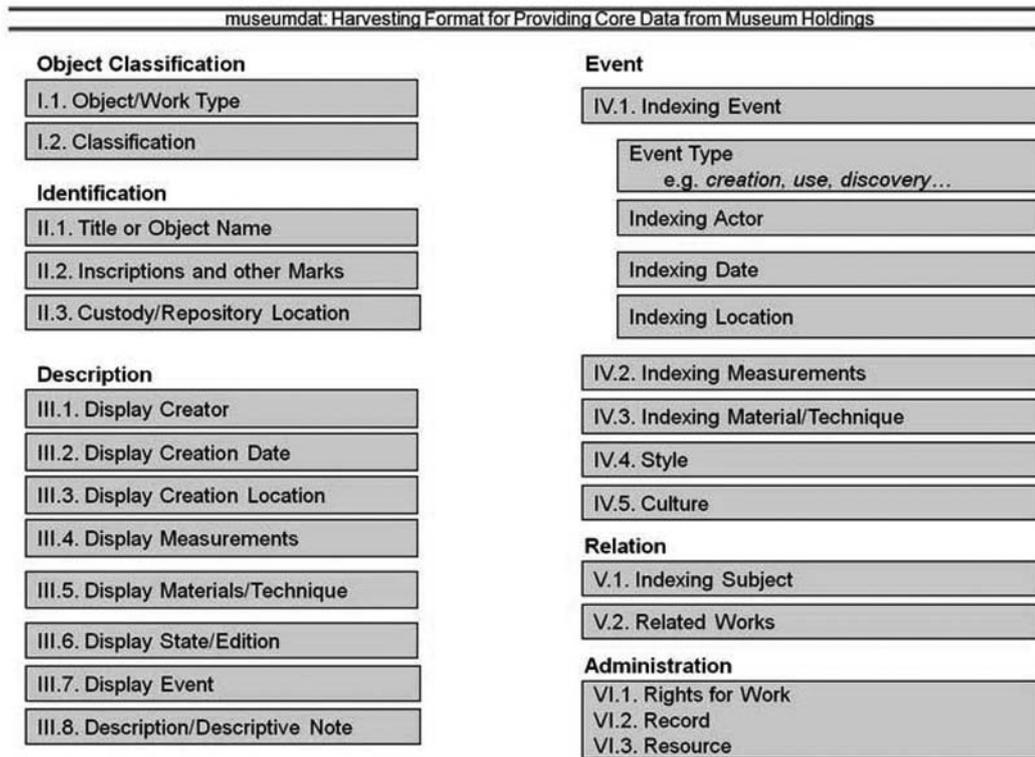


Figure 4. museumdat Element Set.

CDWA Lite. In addition to use within the German museum community, museumdat has become the standard delivery format for museum object data to the Bibliotheken Archive und Museen (BAM) portal, which allows for searching across library, archive and museum collections in Germany.²⁴ It is also being used by the regional museum network Digicult Schleswig-Holstein and the image archive Bildarchiv Foto Marburg, and is being considered as an accepted metadata format for Europeana, a European Commission funded project that allows for searching across cultural collections in Europe.²⁵

The CDWA Lite and museumdat XML schemas have been successful in providing a model that identifies a minimal set of information needed to facilitate resource discovery, and a solution that serves as a low-barrier way for institutions to participate in contributing collections to union catalogues and digital repositories. Both of these initiatives recognized that the growing expectation for universal discovery means there need to be ways for everyone to be able to participate in making cultural heritage available online. Existing standards can be successfully used to achieve this. CDWA Lite has led the way in this effort, but museumdat has broadened the scope to be more inclusive of diverse collections, and more flexible in allowing for describing concepts and relationships in cultural heritage documentation.

The creators of CDWA Lite quickly recognized the achievements of museumdat in combining the best aspects of both the event-oriented, multi-disciplinary approach of CIDOC CRM, and the relative simplicity and core elements offered by CDWA Lite. Purpose specific implementations of schemas can be useful and sustainable. However the appeal and potential of combining the efforts of CDWA Lite and museumdat into a common schema was determined to be an ideal opportunity. A CDWA Lite/museumdat Working Group has been established with key stakeholders from both initiatives, and tasked to create a new schema that builds off the foundation of CDWA Lite, and incorporates the enhancements of museumdat. The end result will be a schema that allows information from library, archive, museum and image library collections to be made available in a standardized format for contribution to the networked environment, and for facilitating resource discovery.

The harmonization of CDWA Lite and museumdat intends to create a de facto standard for contributing cultural and natural history collections to union catalogues and digital repositories. The support that these two initiatives have received from the community, whether from vendors, aggregators or collecting intuitions, and the commitments from the CDWA Lite/museumdat Working Group to combine forces and create a common schema, is a testament to the role

existing standards and new principles can have in providing a solution that crosses multiple sectors to achieve a shared goal: resource discovery for all.

Scholars and cataloguing: the SAHARA Image Archive

In March 2008 the Society of Architectural Historians (SAH) received a grant from The Andrew W. Mellon Foundation to develop the SAH Architecture Resources Archive (SAHARA), a dynamic online library of images of architecture and landscape for research and teaching.²⁶ The need for such a resource was articulated in a Scholarly Communication Institute (SCI 4), also sponsored by The Andrew W. Mellon Foundation and held at the University of Virginia in Charlottesville, Virginia, summer 2006.²⁷ The Institute's goal was to provide an opportunity for leaders of SAH, architectural historians, librarians, publishers, technologists, and higher education administrators to study, develop, and implement institutional and discipline based strategies to advance scholarly communication in the context of the ongoing digital revolution for the field of architectural history.

The Scholarly Communication Institute in Virginia resulted in two grants awarded to SAH. The first was to develop a prototype electronic version of the *Journal of the Society of Architectural Historians*. The second was for the SAHARA, with the expectation that scholars, librarians, and institutional leadership would join together to create a shared online resource that would both enrich the field of architectural history and create a new collaborative model for visual resources and art and architecture libraries. For the first time, instead of creating repetitive digital archives at each individual university, SAHARA will enable collaboration resulting in the creation of a highly authoritative resource with global coverage that supporting new research and scholarly publications as well as enhancing university-level teaching.

The expectation is that SAHARA will change the way visual resources and art and architecture librarians at those institutions conduct their work. Instead of developing separate, independent collections of architectural images for each institution, scholars and librarians will contribute images and metadata to SAHARA, a shared resource that will be widely available. Redundancy in collection building will be minimized, which will lead to a reduction in redundant original cataloguing as well. This has been a goal of the visual resources community for a very long time, and SAHARA provides a model for testing this concept.

SAHARA is a partnership encompassing a wide range of individuals and institutions. Members of the SAH leadership are one set of partners – Executive

Director Pauline Saliga, President Dietrich Neumann, and First Vice-President Dianne Harris. An initial set of library partners – Brown University (Providence, United States), Massachusetts Institute of Technology (Cambridge, United States), and the University of Virginia (Charlottesville, United States) – were identified based on knowledge of the schools' architectural history programs and the keen interest of the visual resources and architecture librarians to become involved. The technology partner is ARTstor, a major image repository with the technological infrastructure and organizational expertise in place, along with staff who can contribute to a project such as SAHARA.

SAHARA will be a peer-reviewed resource, much like a learned society journal. One of the goals is to help foster the idea that image content is as valuable a research tool as textual content, and that the particular viewpoints represented in scholars' images are directly related to their thinking about sites in the built environment. The SAHARA collection will be comprised of two overlapping groups of images: the 'Members' Collection' and the 'Editor's Choice Collection.' Any SAH member is able to upload his/her images to SAHARA, assuming the images meet the baseline criteria for technical quality. Those images will reside in the 'Members' Collection'. Images chosen for the 'Editor's Choice Collection' will be selected from the 'Members' Collection' based on a higher technical quality as well as factors that include uniqueness of the content and the need for content in particular areas to develop the collection. This review and selection will be conducted by editorial teams composed of SAH scholars and librarian partners who will be 'area editors' based on geography and time period (e.g. Renaissance Italian architecture).

During the first year, the partners concentrated on the development of an ingest tool that will allow individual scholars to personally upload images, create metadata about them, and finally, add the content to the SAHARA collections. This model of scholars working to help build collections and make them accessible is a new model that requires us to think differently about the roles of scholars and librarians in terms of collection building and cataloguing. Scholars are specialists in particular areas of their domain; we therefore assume that the expertise of the scholars who contribute to SAHARA will inform the cataloguing and accessibility of the images and will result in high-quality metadata. In addition, the area editors also bring scholarly expertise that will further enhance the quality and authoritativeness of SAHARA as a peer-reviewed collection.

Although CCO is the standard for cataloguing the built environment, our SAHARA scholar colleagues were not aware of the cataloguing standards that exist.

DESCRIBE THE IMAGE List of fields: BRIEF FULL

* Required fields: Must be populated to contribute.

Title/Name

* Title/Name of work
 Santa Croce, Pazzi Chapel
 e.g., Palace of Charles V

* View Type
 Exterior
 Image View
 Porticoed facade
 e.g., View of patio

* Broad Classification
 Architecture and City Planning
 Decorative Arts, Utilitarian Objects
 Drawings and Watercolors
 Fashion, Costume and Jewelry
 Film, Audio, Video and Digital

Narrow Classification
 Religious Buildings

Creator Add another Creator

* Creator Name
 Brunelleschi, Filippo
 e.g., Calatrava Valls, Santiago

Role
 archaeologist
 architect
 architectural firm
 artist
 builder

Location

* City/Country
 Florence
 e.g., Los Angeles

State/Province
 Tuscany
 e.g., California

* Country
 Italy
 Add another Country

Repository
 e.g., J. Paul Getty Museum

Chronology

* Date
 commission date: 1429; creation date: 1442-ca. 1465
 e.g., 18th century; or built 1565, restored 1787; or constructed ca. 1750

Earliest Date
 1429
 e.g., 1950; numbers only

Latest Date
 1465
 e.g., 1956; numbers only

Physical Description

Description

Commentary

* Style
 Renaissance
 e.g., Modernist, Baroque, Gothic Revival, Arts and Crafts

Source

* Photographer
 Friedman, David
 e.g., Klee, Jeffrey E.

* Contributor
 Friedman, David
 e.g., Whiteside, Ann

Image Date
 e.g., Winter 2007/2008

Image Earliest Date
 e.g., 2007; numbers only

Image Latest Date
 e.g., 2008; numbers only

Figure 5.

There was an assumption that the standards (as developed by librarians) would not be domain-specific enough, and would not allow for the specificity of terms that architectural historians might use in search and retrieval (e.g. ‘cancello’ a type of Early Christian screen used in Rome). We therefore had considerable

discussion about appropriate metadata for architectural images amongst the SAHARA scholars and librarians. The initial schema concept was developed in the planning phase by a team of scholars and librarians who discussed the needs of scholars for finding image content related to the built environment, and the metadata that required to make that content discoverable. The goal for the metadata schema is a challenging one. We needed to strike a balance between encouraging scholars to become engaged in the process of developing quality digital resources and making the process of cataloguing images less burdensome. While the goal is to try to transform scholarly work habits, SAHARA cannot just turn scholars into full-scale cataloguers. The schema also needs to meet the requirements of cataloguers and computer systems staff, with clean data that can be used for effective search and retrieval and shared across resources. Finding that balance is not necessarily an easy task and we suspect that our first iteration is likely to undergo some changes after we test it.

The SAHARA project currently offers two ‘views’ of the schema. One brief ‘view’ for scholar input that does not necessarily include authority work as they go. The other ‘view’ of the schema can be used by cataloguers or by scholars interested in providing full metadata records. The workflow model we are considering is one wherein librarians at participating institutions share the load of doing authority work for SAHARA and clean-up of data input by scholars. There will be controlled vocabulary lists for particular fields to assist people in their cataloguing. Other terms, such as names of creators or geographic place names, will be derived from the ARTstor Name Authority and Country files. Linking to available and existing authority files and controlled terminology will both aid in consistency of data input and make it possible to help train people who are not used to cataloguing.

The schema has undergone considerable revision, but has consistently maintained a strong relationship to the VRA Core 4.0, and embodies the principles found in *Cataloguing Cultural Objects*. ARTstor staff have contributed their metadata expertise and technical knowledge in helping us to refine the schema, ensuring that it will work within the ingest tool. The ARTstor technologists, with programmers at the three initial partner institutions, have also developed an XML schema to facilitate the movement of data from the local cataloguing tools to ARTstor. In the future, the hope is that institutional contributors will also use the ingest tool in the full record mode, rather than exporting data from numerous cataloguing systems to ARTstor, a method that requires the data to be massaged before it can be published.

The SAHARA schema uses many of the elements found in CCO. They include Creator, Title of the building or site, Work Type, Date, Location, Style, Source, View Type, View Description, Materials and Techniques, Measurements, Description, and Subject. Within the Creator information, one can include the Creator's nationality, the extent of the creator's role in the building or site, and attribution information. With Title information, a contributor can provide alternate titles, as well as the names of complexes of which a building might be a part. Location information includes Street address, City, State, and Country (Figure 5). There is growing interest in the use of geo-referencing in the field of architecture, and thus SAHARA includes the option of including a point reference for the building or site, using longitude and latitude.

One of the most important aspects of creating a resource like this (i.e., distributed with multiple contributors) is the ability to take advantage of authority files and controlled terminology. Working with our colleagues at ARTstor, we have linked the Creator field to the ARTstor Name Authority File (derived from the Getty ULAN²⁸). The Title field, while not connected to an authority file, does use an auto-fill feature so that if a contributor enters the name of a building or site that already exists in SAHARA, the name will appear as a selection. This will facilitate a measure of consistency in data entry. As the content in SAHARA grows over time, the auto-fill feature will become more useful, as more titles of built works will be found in the collection.

Other fields require a controlled terminology. These fields include View Type, Narrow Classification (which in this case is used to describe Work Type), and Country (taken from ARTstor's country list). The terms for these fields were chosen by a collaborative group of SAHARA scholars and librarians using the Getty's thesauri. The development of the Work Type list, called Narrow Classification in SAHARA, was a long process. The number of terms used as Work Types in most image cataloguing databases results in a very long list. A pull-down pick-list of hundreds of terms is unwieldy and could be a disincentive for contributors. SAHARA created a list that is extremely short, and therefore far broader than originally conceived. The list, rather than serving to distinguish buildings or sites by specific functions, serves as a way to classify buildings and sites in broad categories. The concept of Work Type, in this instance, has been diluted, to meet the pragmatic needs of those who are not professional cataloguers.

Not specific to CCO itself, but critical to SAHARA, is the inclusion of administrative fields to delineate the photographer, the contributor of the

images, the copyright, and usage rights of the contributed images. In order to try to find the balance between asking for some metadata, but not too much, we have delineated required fields. These fields are close to CCO recommended required fields and include: Title, View Type, Broad Classification (which aids in search and retrieval in large digital repositories), Location, Date, Style, and Source information relating to contributor, copyright, and usage rights.

In discussions about metadata for the SAHARA project, several scholars noted that there is a pressing, urgent need for a built work name authority file. For example, such an authority file would help disambiguate the various Palazzo Corner in Venice. Cultural heritage cataloguers have also voiced this wish for many years. In response, the Getty Vocabulary Program is developing a new thesaurus, the Cultural Objects Name Authority (CONA).²⁹ SAH is particularly interested in working collaboratively on the development of CONA. Again, the expertise of the scholarly community would be of great benefit to such an authority file.

As scholars began to share their images and catalog them in SAHARA, one of the first questions we received concerned the issue of 'what am I cataloguing?' If one is cataloguing a building, the location is the geographical place in which the building sits. But, a scholar attempting to catalogue a map asked us, "How can one catalogue something like the Nolli map when the "location" field is still required?" She observed that clearer definitions for what goes into SAHARA and what belongs in ARTSTOR may be needed. Or, on the other hand, that the two repositories need to become more interrelated and fluid in terms of content and cataloguing. This scholar has hit upon an issue that cataloguers think about daily – how to bring together diverse cataloguing viewpoints into shared systems in ways that make sense to end users. We can address the basic question in our cataloguing guidelines, but the issue of how content converges in repositories has to be a collective response among cataloguers and repository providers.

SAHARA was launched on April 1, 2009, with a seed collection of approximately 9,500 images that contributors can add to using the ingest tool. As scholars contribute and use the metadata template, they are also providing feedback about our metadata schema, the ease of use of the template, and specific metadata fields. For example, scholars have told us that the View Type term list is too short. We have had the same feedback on the Narrow Classification list. These comments bring us back to our original discussions about how to create term lists that are short enough to pick from versus lists that are long enough to be valuable. In our deliberations about metadata

fields, a decision was made that the Style field should be required. But, we have had many people comment that requiring Style is not helpful because not all buildings, sites, or landscapes can be pinned to a definitive style. Other comments reflect a lack of understanding about how fields are to be used, the values intended for specific fields, and why some kinds of information are needed for access to a collection that is envisioned to be in the hundreds of thousands over time.

The SAHARA project team has created a feedback log so that we can make informed decisions about suggested changes to the metadata schema and the use of fields resulting in agreed upon changes during the next year. We are also developing a set of cataloguing guidelines that will be shared broadly in the Society of Architectural Historians community, which we hope will both educate scholars and assist in the cataloguing within SAHARA. As part of our outreach efforts, we also are engaging librarians who work with SAHARA scholar contributors to help them understand and use the metadata fields.

SAHARA is in the process of not only building a collection, but of educating scholars, to think critically about metadata as a practice and to select metadata that will provide the best access. As SAH members begin to contribute to the collection, and as architecture and visual resources librarians become involved with the cataloguing and editorial processes, the goal is to build a collaborative community focused on creating a new model of scholarship in architectural history. SAHARA is one possible model in which librarians can engage with scholars to define these new roles and CCO is providing vital guidance in this effort.

Applying CCO in a MARC/AACR world

The first reaction of many librarians to hearing that a library uses CCO in its online public access catalog (OPAC) is likely to be, "Why would you want to?" Isn't CCO intended for use in visual resource collections and art museums, rather than in library collections, which have their own set of data standards? Why mix standards from two different worlds?

It is true that library collections consist chiefly of printed publications, and that the data standards³⁰ and information systems used by libraries were developed for, and work best when applied to, traditional library materials. But there are very few libraries that do not own at least a handful of art and cultural objects. These may include: portraits of founders or donors; artwork gifted for decorative purposes; and art or cultural objects that come to the library with someone's papers, or because they have some association with existing textual collections. In most cases, there are

too few objects to justify the cost of setting up a separate database. Moreover, the existence of a separate database complicates collection management activities such as inventory and circulation, makes it difficult to provide integrated access to the entire collection, and precludes contributing records for the objects to larger aggregations of library metadata such as OCLC's WorldCat.³¹

The most effective way to establish internal control over objects and to provide access to them is to document them in the OPAC. The records need not be elaborate; accompanying documentation may be minimal, and library staff will probably lack the expertise to supplement or correct it with a description that would pass muster with an art historian. Even a brief description, linked if possible to an image of the object, will provide basic identifying information which, when disseminated through the OPAC, may elicit additional information from users. Librarians who possess more substantive documentation, or who can tap the expertise of art historians, conservators, dealers, or collectors can create more detailed descriptions. Whatever the length of the record, librarians will find CCO an invaluable guide for the selection and formulation of information appropriate for the description of art and cultural works.

What follows is a discussion of key issues encountered when attempting to apply CCO to the cataloguing of art and cultural works in the collections of The Morgan Library and Museum (New York, United States). The Morgan's collections consist preponderantly of printed books and periodicals, manuscripts, and music, but also contain important collections of art and cultural works, such as drawings, prints, ancient near Eastern cylinder seals, paintings, sculpture, decorative objects, and cultural artifacts as diverse as Voltaire's briefcase, John Ruskin's lead soldiers, and a lock of John Keats' hair. The institution's decision to acquire the Voyager library system and to provide access to all materials through the system's OPAC coincided with the Visual Resources Association's decision to develop the CCO guidelines. Several Morgan librarians were able to participate in the development process as part of the editorial board and to apply the emerging standard to the description of their own collections.

Although it is possible to create 'pure' CCO records in MARC, there is little advantage to doing so. Differences in stylistic conventions between the *Anglo-American Cataloguing Rules* (AACR) and CCO (for example, the latter does not use ISBD punctuation) can be jarring, and differences in the way data elements are parsed raise problems for display, indexing, and retrieval. Within a library context, CCO is

best applied as a supplement to library cataloguing standards, to bring out characteristics of objects that are not covered by rules formulated for textual works and published items.

The object or work type is the single most important piece of information about an object; in the words of CCO, "The Work Type establishes the logical focus of the catalog record."³² In the world of library cataloguing, object type is considered 'carrier' information, as distinct from content information; it characterizes the delivery medium for a particular manifestation of a work, rather than the essential nature of the work. The object type most commonly found in library collections is recorded nowhere in the bibliographic record, the assumption being that unless otherwise indicated, the item described is a book. The object type for non-books is recorded in various fixed and variable fields within the MARC record; none is entirely satisfactory for object cataloguing.

The MARC 300\$a (Extent) subfield, part of the physical description area, does not display in initial result sets and is unlikely to be indexed in many library systems, since it is used mainly to record pagination. The MARC 245\$h (Medium) subfield, which is used for recording the General Material Designation (GMD), is preferable for display and indexing purposes, but the only object-related terms defined by AACR for the GMD are *graphic*, *art original*, and *realia*, all of which are far too general to be useful. Morgan librarians chose to record the object type in the 245\$h subfield, but to substitute more appropriate terms. Specific object types such as *drawing*, *painting*, or *sculpture* are used for items with titles that describe what the work depicts, as in this stage design by the 19th century Italian artist Pelagio Palagi:

245 10 \$a Interior of a Vast Roman Fortress \$h [drawing]

For items lacking pictorial content, where the title conveys the object type, the more general 'object' is used:

245 10 \$a Embroidered 18th-Century Italian Waist-coat Made for Count Gasparo Gozzi \$h [object].

(Note that the title includes the name of the person for whom the coat was made. Many cultural objects derive their meaning and value from their association with famous persons, rather than from their innate value as artifacts. Conveying this relationship in the title makes the objects more accessible to users.)

Genre terms (MARC field 655) for work type (from the *Art and Architecture Thesaurus*³³), subdivided by culture and date, are used to enhance retrieval and to provide browseable lists:

655 _7 \$a Drawings \$x Italian \$y 18th century. \$2 aat
655 _7 \$a Drawings \$x Italian \$y 19th century. \$2 aat

Library cataloguing rules were designed for the description of published items. They assume that items come pre-packaged with a title page containing a formal description; information not appearing in the prescribed sources on the item is bracketed. Unpublished objects do not have title pages, and much of the description must be supplied, based on a variety of different sources, including the cataloguer's judgment. Since supplied information is the norm, brackets are not used.³⁴ Even more surprising to librarians, information appearing on the object itself, such as inscriptions and markings, is not privileged over other sources. CCO reflects art cataloguing practice in preferring a supplied title that fully describes the pictorial content or function of the object to a description appearing on the object, even one in the hand of the artist. At the same time, it recommends recording variant and former titles and carefully transcribing all inscriptions and markings. Here is how these recommendations are translated into a MARC record in our catalog:

```
100 1 $a Zuccari, Federico, $d 1542 or 3-1609.
245 10 $a Allegory of Sin $h [drawing]
246 33 $a Pianto, Peccato, Spavento $h
[drawing]
246 33 $a Allegoria del Peccato $h [drawing]
562 __ $a Inscribed in black chalk, by the
artist, "PIANTO / PECCATO / SPAVENTO"; at
lower edge at center, in pen and brown ink,
"Zuccaro"; on mount, in lower left corner,
in pen and brown ink, "Zuccaro"; on verso
of mount, in pen and brown ink, "Pa
Auctionkost P. 1-9"
```

This gives users the best of both worlds: a meaningful title in the language of the catalog as well as access to everything written on the object, which may provide clues about attribution or provenance. Note that in this example, information relating to the artist is recorded in the MARC 562 (Copy and Version Identification Note) field, rather than in the 245\$c (Statement of Responsibility) field. Creator information written on a unique object by someone who may or may not be the artist does not carry the same weight as a formal statement on a printed title page.

The authors of CCO wisely chose not to reinvent the wheel by drafting rules for the formulation of name headings. Cataloguers are free to select their own sources for name authorities, so librarians need not worry about conflicts in the OPAC between the headings that provide access to their objects and those that provide access to secondary material. CCO does

deviate from AACR in its view of the creative role of corporate bodies, families, and unknown artists. Unlike AACR, CCO considers corporate bodies such as the *Worcester Royal Porcelain Company* or *Tiffany and Co.* to have primary responsibility for the objects produced in their manufactories; families such as the Bibiena family of Italian artists and theatrical designers are regarded as the primary creators of art and cultural works attributed to the family in the 18th century.³⁵ The Morgan's records for art and cultural works conform to CCO in treating corporate bodies and families as main entries for the objects they produce or create.

It is more difficult for librarians to accept the need for anonymous creator headings. Library cataloguers deal with a textual work of uncertain or unknown authorship by omitting the author field from the record and making the title the primary access point. But this situation is relatively uncommon for textual works; works of art that cannot be attributed to a known artist or even to an artist identified by a distinctive phrase such as the *Achilles Painter* are so prevalent that art cataloguers have developed a range of different ways to provide users with some context for the work's creation:

Attributed to Francesco Salviati.
Formerly attributed to Francesco Salviati.
Workshop of Francesco Salviati.
Follower of Francesco Salviati.
After Francesco Salviati.
Italian, 16th century.

Access points based on these attributions can be integrated into OPAC heading browses with surprising ease. In the Morgan's catalog, the AACR name form for Salviati, which is used to index both art works attributed with certainty to Salviati and printed secondary material reproducing his work, appears first in the name browse, followed by the non-AACR headings with qualifiers:

Salviati, Francesco, 1510-1563.
Salviati, Francesco, 1510-1563, after
Salviati, Francesco, 1510-1563, attributed to.
Salviati, Francesco, 1510-1563, formerly attributed to.
Salviati, Francesco, 1510-1563, workshop of.

Headings for attributions to cultures are also used (although the Morgan prefers 'Anonymous' to the CCO-recommended 'Unknown'):

Anonymous, Italian, 16th century.

Library cataloguing rules for physical description are limited in scope and in the amount of detail

required; they focus chiefly on the extent of an item (i.e., the number of pages, leaves, volumes, fiches, reels, etc.), the presence of illustrations, and the measurements (in one dimension only, height, for books). Because each art work is a unique physical object, precise and detailed description is needed for purposes of identification. The task is complicated by the fact that the number of different object types is virtually unlimited; someone accustomed to describing graphics may be stymied by the challenges presented by a coin or a banjo clock. CCO's chapter on Physical Characteristics will provide a lifeline to librarians struggling with object description. The chapter, which is twice as long as any other data element chapter, offers guidance on recording information concerning the measurements, materials and techniques, editions and states, inscriptions and markings, and facture of a wide variety of different object types. The section on measurement is particularly helpful to non-specialists, who might not think of including information on shape (for an oval miniature), weight (for a carved gem or a megalithic stone), or size (for an article of clothing).

Both MARC and AACR, especially the AACR-compliant codes developed for use in cataloguing special collections, make provision for more detailed physical description when desired; It is possible to fit CCO-style physical descriptions into OPAC records without too much difficulty. The MARC 340 (Physical Medium) field is defined for "physical description information for an item that requires technical equipment for its use or an item that has special conservation or storage needs";³⁶ it is more granular than the 300 (Physical Description) field, so that medium and support can be recorded in separate subfields. Here is an example of our use of the 340 field for a 15th-century Italian sculpture:

340 __ \$b Sculpture - height: 12 3/4 in. (315 mm), width: 11 3/8 in. (290 mm), depth: 6 1/2 in. (165 mm); Base - height: 3 1/2 in. (90 mm), width: 14 1/4 in. (363 mm) depth: 9 in. (227 mm) \$c Terra cotta with polychrome decoration.

Here is a much simpler description, for a 19th-century Venetian crystal locket:

340 __ \$b 7 x 4 cm \$c Crystal and silver.

In summary, a little information goes a long way in providing access to objects in library collections. Used as a supplement to library data standards, CCO provides librarians with the basic tools for creating records for art and cultural works that can live in

harmony with the records for their mainstream collections. In another arena, the question of images in a MARC environment is going to loom larger as image collections (e.g. art photograph archives) are integrated into library collections and eventually, LAMS environments. Visual resources cataloguers routinely deal with issues arising from deciding whether to catalog a group of objects as a series or a set or as discrete objects and how to structure the object/image relationship. Librarians have experience in dealing with multi-work series, single issues or broken sets of periodicals, and archival collections. CCO could be a means of helping both communities deal with these complexities in the realm of objects and images.

Conclusion

Fortunately, the last few decades have seen intensive development of data standards for describing cultural works, resulting in a theoretical foundation encompassing a range of viewpoints. Driven by the rapid growth of technology and the educational mandates of cultural institutions to provide access to information about works of art, *Cataloguing Cultural Objects*

provides a common framework in this effort. Today, a cross-section of museums, library special collections, and pictorial collections use CCO with a range of descriptive metadata element sets and specialized controlled vocabularies to catalogue and share information about cultural works.

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Content development in an indigenous digital library: A case study in community participation

International Federation of
Library Associations and Institutions
36(1) 30–39
© The Author(s) 2010
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359570
ifla.sagepub.com



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Abstract

Africa and African libraries and information centres are poorly equipped to make a meaningful contribution to the current global digital knowledge economy. Low local content on the Web retards buy-in from local communities into digital resources and inhibits development of digital skills. A library with content of local relevance will encourage communities to make use of library services, especially if they are empowered to participate in development of the content. Public libraries serving ethnic communities whose histories are locked up in written, pictorial and oral traditions are well positioned to provide a platform for public engagement in the collecting and disseminating of indigenous knowledge in the communities they serve. This paper presents a case study in community participation in developing content for a digital library of local indigenous knowledge. Description of the programme highlights interaction between the library, the community and the technology used. Implementation challenges, results and lessons learnt are discussed and benefits to the community pointed out. In providing an online, contextually-based information service to local communities, public libraries in Africa will ensure future-oriented access to cultural heritage resources through 21st century information communication technologies (ICTs). The potential to reduce the digital divide will be enhanced and African communities will be introduced to the global information society.

Keywords

indigenous digital libraries, indigenous knowledge, community participation, content development, indigenous portal, information communication technology

Introduction

Digital information and communication technologies have revolutionized the ways in which knowledge and technical know-how travel around the world. The extent to which information requirements are met by the Internet throughout the world is reflected in usage statistics; the latest figures shows 73.6 percent of the population in North America use the Internet; usage in South America is 24.1 percent whereas in Africa Internet penetration is 3.6 percent (Internet World Stats, 2008).

Apart from the problem of accessibility, the global trend of using the Internet for preservation and dissemination of cultural information causes a dilemma for the African information community. While African local content on the Web is very low, cultural heritage

remains undocumented due to a lack of capacity to record, transfer and disseminate information. The result is that Africa, and the library and information centres in Africa, are at a major disadvantage in the current knowledge economy and are poorly equipped to make a meaningful contribution to the global information society. Buy-in to digital resources by local communities remains low because of the paucity of local content, which contributes to the lack of digital skills development. Social coherence within

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communities is deteriorating because the indigenous knowledge is not preserved.

This paper describes a case study in the online preservation of indigenous knowledge resources as an integral part of local public library and information services. The latest information society technologies are used to create a collaborative local indigenous knowledge database. The programme is coordinated by the local public library, focusing on custodianship – providing content management, training and support. Ordinary people from the community are actively involved in the development of content, encouraging them to take ownership of the programme and share their knowledge.

Objectives

The main objective of the programme is to create an online indigenous digital library as part of public library services. The library aims to involve local communities to develop the content for this library and in doing so it creates an enabling environment for disadvantaged communities to become part of the global information society through active participation. Short-term goals include access to a digital knowledge resource of local relevance, as well as capacity building of digital and information literacy skills. Long-term goals include provision of an online, contextually-based information service to local communities which will ensure future-oriented access to cultural heritage resources through 21st century information communication technologies (ICTs). By establishing a sustainable, digital library service of local relevance which is in step with contemporary public library services elsewhere in the world, African public libraries will become part of the global information society.

Why indigenous knowledge content?

Indigenous knowledge is part and parcel of the culture and history of any local community. Development agencies “need to learn from local communities to enrich the development process” (World Bank, 1998). Indigenous knowledge also affects the well-being of the majority of people in developing countries (Ngulube, 2004). Some 80 percent of the world’s population depend on indigenous knowledge to meet their medicinal needs and at least 50 percent rely on indigenous knowledge for food supply (Nyumba, 2006). Indigenous knowledge is indeed the cornerstone for building a unique identity and ensuring coherence of social structures within communities.

Because indigenous knowledge is mostly stored in people’s minds and passed on through generations by

word of mouth rather than in written form, it is vulnerable to rapid change (Sithole, 2006). Development processes like rural/urban migration and changes to population structure may contribute to loss of indigenous knowledge. Indigenous knowledge faces extinction unless it is properly documented and disseminated (World Bank, 1998). The programme described here enables communities to preserve and manage their own local knowledge in an economically viable and sustainable manner and so create a legacy for future generations.

Why the library?

The public library is an appropriate anchor partner in the programme because of the stability of its position both within the community and within the government structures through which it is established. As part of social services, it is well positioned to ensure free and equal access to information and knowledge (Hedelund, 2006). By virtue of their profession, librarians bring expertise to the programme in the form of information/content management skills (Snyman and Van Rooi, 2006). Local librarians are experienced in social outreach skills and typically enjoy good trust relationships with the communities they serve. By including oral history activities among professional duties, librarians are well-positioned to take the lead in a programme such as this (Du Bruyn, 2003). Apart from gathering new information, librarians should also train and reach out to communities. Story hours should be used to record oral histories. Elderly members of the community should be invited to the library to tell their stories. With the necessary training in oral history, librarians would be able to record the stories to preserve them as oral histories.

The use of computerized information systems can be effective as a system of conservation if they support the maintenance and transmission of knowledge within those communities that developed the knowledge (Mosimege, 2005). Libraries elsewhere in the world have been preserving indigenous knowledge online for many years (e.g. Smithsonian Institution’s Center for Folklife and Cultural Heritage (Smithsonian Institution), New York Public Library’s Schomburg Center for Research in Black Culture (New York Public Library). These, and similar digitization programmes, are typically run by well funded academic or governmental institutions (Knight, 2008; Armstrong, 2008; Lee and Crichton, 2008).

However, circumstances are very different in African libraries, largely limiting community participation to small elitist groups. The prohibitive cost of documenting indigenous knowledge compels most

libraries to establish public/private partnerships to achieve their goal. There are arguably no projects focusing on pervasive community-driven collection and preservation of indigenous knowledge. Current African e-initiatives are largely limited to provision of access to agricultural, health and business information (Chisenga, 2008; Lwoga and Ngulube, 2008; Okelloobura and Minishi-Majanja, 2008].

The programme described here is in step with global goals as constituted in the African Charter for Popular Participation (United Nations, 1990), the United Nations Social Development Plan (United Nations, 1995) and the United Nations Millennium Development Goals (United Nations, 2000).

It is also in keeping with the World Summit on the Information Society (World Summit on the Information Society, 2003, 2005) plans of action, which were developed to achieve the goal of "providing equitable access to information and knowledge for all". From the Geneva Plan of Action (World Summit on the Information Society, 2003), the action lines directly underpinning the programme described are briefly:

Access to information and knowledge. This concerns policies relating to public domain information, community access points (including such access in libraries), alternative software models (open-source and free software). One of the actions envisaged is the development of digital public library services.

Capacity building. This covers skills needed for the Information Society, including literacy and 'ICT literacy,' the use of libraries in e-literacy work and the empowerment of local communities to use ICTs.

Cultural diversity and identity, linguistic diversity and local content. This action plan focuses on promotion of respect for cultural identity, traditions and religions and dialogue among cultures as a factor in sustainable development. Libraries feature prominently in this plan, most notably their role in providing access to content and indigenous knowledge. By implication the role of libraries is extended to promote cultural heritage, support local content development and to enhance the capacity of indigenous peoples to develop content in their own language.

Why community participation?

At the heart of the strategy of community participation lies a respect for cultural identity, traditions and religions, acknowledging community ownership of indigenous knowledge (World Summit on the

Information Society, 2003). Members from the community are selected to join the programme as volunteer fieldworkers because they are connected to the source of the information and are the holders of the knowledge that the programme aims to preserve. Indigenous representations are recorded within the context of the local community (Iseke-Barnes and Danard, 2007). The preservation of culture and heritage builds social identity and cohesion and create a legacy for future generations.

Access to useful knowledge of local relevance builds an informed society, while e-literacy and ICT skills are continuously transferred into the community through their own community networks. The digital skills development that is imperative in the strategy not only empowers local library staff but more importantly creates the potential for ongoing capacity building in the use of ICTs among disadvantaged communities. Exposure to wider knowledge, together with enhanced information literacy, promotes knowledge sharing and lifelong learning, introduces people to the global information society, improves knowledge levels and adds value to the programme through creation of economic opportunities.

The programme

The programme consists of three components, i.e. social software technology, the public library, and the community. It is presently running as a pilot project in the greater Durban area in South Africa, using the established, multi-branch public library system consisting of a network of urban, peri-urban and rural libraries within the municipal boundaries. However, as such it is easily adaptable to run equally successfully from a single library, resource centre or community centre, provided Internet access is available.

Social software technology

Together with developments in information and communication technologies over the past few decades which have prompted a shift from collection development to collection management in libraries (Rowley, 2003; Lwoga and Sife, 2006), the recent emergence of Web 2.0 technologies is now enabling large-scale collaboration in the creation of online data (Farkas, 2007; Grand, 2006).

In the programme described here, preservation of indigenous knowledge is achieved through establishing a community web portal using Web 2.0 technology. The memory database is embedded in the portal as a wiki (Wiki, 2007), allowing collaborative writing and sharing of content (Figure 1).



Figure 1. The Ulwazi website. The wiki containing the indigenous knowledge database is embedded under the Ulwazi Memory tab.

While Web 2.0 is all about community and collaboration, it is also about usability. The usability of Web 2.0 technology in this project lies in its strong interactive community aspect: the wiki is used to share ideas, content, images, oral histories and videos between members of the local community.

The ease of use is another attractive feature of social web technology. There is no need to learn HTML, as content can be added in plain text and in any language. In the pilot project English is used alongside Zulu, the local vernacular. Internal links enhance findability of related information and external links ensure web-wide reach of content.

Information is organized in three broad categories of history, culture and environment. Following Mosiemege (2005), the model allows use of folksonomies within these three broad categories. Contributors are free to use traditional names for concepts peculiar to the community to create sub-categories and article names. The advantage of folksonomies, in contrast to a controlled vocabulary, is that it is open-ended and can respond quickly to changes in the way users categorize content (Hartman, 2006). It thus promotes the forming of a social network among web users.

The library

Existing public library infrastructure is used as a platform from which the programme is launched,

constituting a significant cost-saving factor. The programme is run from a central programme office in the Systems Department of the library, equipped to facilitate training and content management. Whereas the central office is responsible for directing and coordinating the project, branch libraries form the link to the communities and are responsible for outreach programmes and coordinating of data collection within each community.

Introducing the programme to the community. The programme is introduced to community leaders by the librarians at branch libraries. Formal agreements to run the programme in an area are obtained from traditional and political leaders to ensure collaboration from communities. Presentations are done as widely as possible to raise awareness among communities and promotional material distributed at community centres such as libraries, health clinics and customer care centres. Outreach programmes are periodically run from libraries.

Supporting data collection. Fieldworkers are based at branch libraries from where they go out to collect data. The branch library supports fieldworkers in providing space for oral history interviews, providing internet access and assisting with audiovisual equipment where necessary. Further support of the programme is rendered through local outreach activities

in which the programme is promoted in workshops and meetings at which knowledge is shared and recorded. Promotional material is also distributed from branch libraries.

Partnerships with other institutions are pursued, such as museums and archives. Often their collections can be enriched by tangible donations of artefacts or documents from community members relating to their oral histories that they offer to hand over for preservation. Communication and collaboration between experts and ordinary people are promoted by the interaction between librarians, fieldworkers and community members, sharing knowledge and ICT expertise.

Managing the data. Preliminary data management is done by branch librarians to upload and edit data where necessary. Further collection management is done at the central programme office with assistance from the cataloguing and reference departments of the library in editing and organizing of the data (indexing, hyper-linking, creating folksonomies, etc. to ensure effective retrieval). Because the social software allows input in any language, translation of data needs to be done selectively. Information posted to the website is archived by the hosting company. Extended information is stored externally and made available on request. To ensure adherence to selection policies and intellectual property rights, the content managers review new input on an ongoing basis.

Collection development by the librarians is done as part of their professional duties to ensure all aspects of the community knowledge are covered. Shortfalls are addressed through regular library outreach activities such as holiday programmes, storytelling forums, historical society initiatives, cultural events, craft workshops and exhibitions, for which there are well developed methodologies and capacity in the library environment.

Reviewing the programme. Reviewing the programme regularly is the responsibility of the central programme office. The success of the programme is quantified through the following key indicators:

- number of database entries in the various knowledge categories
- number of pictorial material and video streams
- number of times the site is visited
- number of people registering on the site to add information
- amount of information collected from communities
- amount of information collected from established resources, i.e. local cultural and natural history



Figure 2. Group interview with surviving family members of an eminent historical figure in the uMbumbulu community south of Durban.

museums, the botanic gardens and indigenous nurseries, and other local institutions

- number of people contributing to the website
- number of people involved in collecting of information
- number of people trained to moderate content
- number of community workers trained to collect and capture stories and information
- number of community members trained to capture information
- community surveys and opinion polls

The community

Metropolitan areas in Africa are typically surrounded by peri-urban and rural areas, with large populations where there is little coherence in social structures, partly due to the dispersed nature of living environments and partly due to the poor economic situation prevalent in these areas. It has been shown over the past few decades that top-down social development strategies do not achieve sustained public participation (Korten, 1983; 1990). The model on which this programme is based favours the micro-level approach (Davids, Theron and Maphunya, 2005), adopting a bottom-up philosophy, with the community as the most important member in this partnership (Coetzee, 2001). Local leaders, programme fieldworkers and the community members themselves are the main participants.

Community leaders. Leaders from the community play a pivotal role in the establishment and continuation of the programme. Protracted engagement of local leaders in discussions around indigenous knowledge issues ensures alignment of targets to current sentiments, which is imperative to sustained community



Figure 3. Traditional Zulu dance festival in the rural community of kwaXimba, west of Durban.

interest in the programme. Before any work is done in an area meetings are arranged with local leaders to present a draft proposal, obtain their input and finalize agreement on the terms and conditions under which the project will be run. Once the agreement is in place the programme is launched.

Fieldworkers. Volunteer fieldworkers are selected from the immediate community to drive the programme at ground level, with the support of branch librarians. They have intimate knowledge of the community and are in a position to build up trust relationships with members of the community.

Once trained in ICT skills and oral history protocols, they are sent out into the communities to collect information (Denis and Ntsimane, 2008; Ritchie, 2003; Thompson, 2000). A structured work plan is used as a guideline to ensure continuity, with small incentives to encourage workers to adhere to the plan where possible. They are expected to do data-collection using various methodologies:

- Short journalistic style reports of current community activities, historic places, events, and information on traditions, arts, crafts, religion the living environment, etc.
- Oral histories and stories. The programme and its aims and objectives are introduced at a pre-interview, outlining the scope of the information that will be recorded to ensure usability of the end result. An appointment is arranged for the interactive interview and carried out by the fieldworker with library staff assisting where necessary (Figure 2). At the post production stage summary transcripts and images are posted to the website or

e-mailed to the content management team for editing and posting. Audio and video recordings and digital images are downloaded for external archiving.

- Research on high-interest themes and recording of the information.
- Posting of articles and images to the website.
- Informal social networking among the community to create awareness.
- Assisting community members to post their own information to the website.

This way digital skills transfer is achieved widely throughout the community.

Community members. The community in all its complexity constitutes the natural resource that forms the basis of the model. Ownership of the knowledge rests with the community and sustainability of the programme is ensured through community participation (Figure 3). Special target groups in the community include the elderly, the youth, cultural groups including artists and crafters, professionals and technologists.

Fieldworkers approach people in the community with valuable or otherwise interesting knowledge, explaining that the information will be published on the web in the interest of sharing the knowledge with other Internet users. People submit information for publication on the web on a voluntary basis, and from a personal perspective, i.e. they decide what information they want to part with and interpret the facts of an event from own experience. Oral histories in particular are highly contextual (Grele, 1991). Contributors sign an agreement to release the information for educational purposes only, including publications, exhibitions, presentations and the web, without relinquishing copyright or performance rights. Full acknowledgement of the owner of the knowledge is published with articles.

Through public donor funding more and more schools around the metropolitan perimeter have Internet access, which opens up the potential for the youth to participate in the programme by posting information directly to the website. This opportunity is exploited through collaboration with local schools. They are invited to join the programme by adding relevant local information to the website to complement curriculum material. This creates potential for secondary educational opportunities in the form of digital assignments through which learners not only gain local indigenous knowledge but also improve their digital skills, while at the same time making a contribution to the preservation of their cultural heritage.

Professionals and technologists within the community are encouraged to share factual knowledge with other community members. Members from formal community structures, commerce and local government departments (e.g. health, agriculture, education, environmental affairs, culture and heritage) with local information that belongs in the public domain are encouraged to make the information available for posting to the website.

Implementation

Challenges

From the institutional side, the largest hurdles are funding and staffing. The pilot project could only be launched once capital funding for web design, ICT and audiovisual equipment was secured. The libraries are not well equipped with ICTs; in many instances a single PC with Internet access has to be shared among all members of the public. Posting of data and images to the website is compounded by the bandwidth problem that is still plaguing large parts of Africa. No additional staffing was made available and time has to be set aside from regular duties, which means the project is not taking priority in service delivery to the public.

From the community side the main challenges are low skills levels, large distances, lack of Internet access and poor communication. The very low skills levels of fieldworkers slow down the roll-out of the programme. Intensive training with repetitive follow-up workshops places excessive stress upon library staff time.

Rural communities live widely dispersed in remote areas with extreme topography. Libraries are often very far away from where they live and poor road infrastructure makes access difficult. Transport from far outlying communities is costly and there is very limited funding for stipends for fieldworkers who mostly come from the unemployed sector. To alleviate the situation four shipping containers have been refurbished to serve as small community libraries in the most under-served areas.

There is a ubiquitous lack of Internet infrastructure within local communities and at schools. There are no Internet cafes and in the few schools that have Internet it is often dysfunctional. They are currently being fitted with wireless connectivity for Internet.

Communication with fieldworkers and potential interviewees is problematic in remote rural areas where mobile phone coverage is poor or altogether lacking. They also don't have access to e-mail, which is less expensive than phoning.



Figure 4. World map showing the international distribution of the site usage.

From the technical side, a lack of web expertise forces the library to employ media consultants for the design, set-up and administration of the website. Library staff are being trained in basic web administration and content management but the learning curve is steep.

Results

The pilot project is now 9 months old and real results are still modest and slow in coming in. Preliminary achievements focus mostly on the building of infrastructure for the programme.

These include design, set-up and registration of the website as well as design and set-up of the MediaWiki database with relevant knowledge categories. Information brochures and training manuals have been developed. Training workshops have been held in which fieldworkers and librarians were trained in PC skills, basic wiki administration, oral history interviewing and recording and photography skills.

Video and audio recordings of oral histories have been done and a basic collection of previously researched and documented information captured.

Analysis of the website activity suggests wide international interest in the site (Figure 4). During February 2009 there were 873 visits to the www.ulwazi.org site from 41 countries; a continuous growth in the number of visitors has also been recorded since the launch of the site.

Lessons learnt

Expect a high turnover of fieldworkers. Since they come mostly from the unemployed sector of the community they leave the programme as soon as an employment opportunity arises, placing additional stress on the recruitment and training aspects of the project.

Incentives, however small, go a long way to sustain interest in the programme among fieldworkers and community members alike. ID cards with contact details of the fieldworkers give them a sense of ownership and pride in the programme as does posting their details on the Contacts page of the website. Certificates for training courses attended are essential and of particular value in the case of nationally accredited courses. Covering of transport costs is always appreciated.

With a multilingual memory database it is necessary to do selective translation, albeit on a limited scale. Content managers need to have a good grasp of the languages being used.

As with many development projects, the programme is labour intensive. Results are slow to come in. Content management is time consuming and needs a relatively high degree of skill and experience. Development of ICT skills among community members comes in very small measures and is seemingly isolated within large communities.

Local community leaders are on the whole very positive and have very little reservation in supporting the programme. They are particularly happy about the capacity building with regard to ICT skills, and are supportive of the access to indigenous knowledge in schools. The only concern raised ubiquitously is the acknowledgment of local leadership in the process.

Training is a slow process. Don't assume that having a single big training session will cover basic training. Especially with fieldworkers training of small groups and one-on-one training is more effective, but time-consuming.

Communication with fieldworkers is problematic. Don't rely on regular communication from them. We have found that they are not always in a position to communicate and constant follow-up communication from the library is necessary.

Marketing and advocacy is time-consuming. The best way to promote the programme is through presentations to small groups and one-on-one discourse with potential stakeholders. Constant follow-up is necessary to ensure that enthusiasm and support among stakeholders are kept up. The follow-up is best done at branch level, targeting small groups through community outreach activities at branch libraries.

Ordinary people in the community are very keen to share their history and knowledge. The programme gives them a voice, bearing testimony to the need of ordinary people to be heard, to feel their contribution is meaningful; this way they become part of a bigger information society. However, care needs to be taken not to raise false expectations and not to make promises that cannot be kept, lest the credibility of the programme be compromised.

Recommendations

The programme should be structured as simply as possible at community level, without losing sight of the overall goal. Complicated, unfamiliar structures tend to inhibit trust relationships and slow down progress. It is also advisable to stagger work areas time wise and to have regular review meetings with all stakeholders in order to keep proper control. Technical expertise is non-negotiable; if it is not readily available internally it should be outsourced, in which case the programme leader has to be closely involved at all stages to ensure the required results are achieved.

Benefits and potential impact

The programme creates digital content for a library of local indigenous knowledge. By running the programme from a public library platform, it is incorporated in a long term strategy that forms part of the digital collection development function of the library. Short-term benefits to the community include:

- Digital content with relevance to local communities becomes available on the Internet.
- Collaboration within a wide audience promotes social networking.
- Free Internet access to poor/low-income communities enables access to global information.
- Usage of digital resources is popularized among local communities.
- ICT skills are transferred to local communities.
- Local communities re-connect with their cultural heritage.
- African public libraries gain a foothold in the international information society of the 21st century.

Through this programme disadvantaged communities gain online access to their indigenous knowledge. This constitutes participation in the global information society, with the potential of narrowing the digital divide.

Economic empowerment of communities through skills development and knowledge provision carries the potential of job creation and progress in poverty alleviation. This will enhance self-esteem and self-confidence, impacting on social development and democratization.

Knowledge provision will enable behaviour changes and informed decision making, as well promote the creation of new knowledge within the community. It will stimulate innovative thinking, aid learning and promote indigenous technologies.

Formal and informal knowledge levels in the community will be enhanced, leading to an informed society.

Collaboration and knowledge sharing not only contribute to the preservation of culture but also bring about cross-cultural understanding and tolerance and improve social cohesion in the community.

Conclusion

The programme enables communities to preserve and manage their own indigenous knowledge in an environment that is sustained through local government structures. In providing an online, contextually-based information service to local communities, public libraries in Africa will ensure future-oriented access to cultural heritage resources through 21st century information communication technologies (ICTs). They will be instrumental in creating a future for the people of Africa by preserving the richness of the past and linking them to the cultural heritage on which their identity is founded.

Through the programme an opportunity is also created for the Public Library as an institution to re-affirm its relevance in an era of technological advancements that threatens to render redundant. Twenty-first-century technologies are used to the advantage of the library to overcome the many practical, often insurmountable obstacles of maintaining traditional style public libraries in remote rural areas.

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International Federation of
Library Associations and Institutions
36(1) 40–46
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359573
ifla.sagepub.com



Interactive open access publishing and public peer review: The effectiveness of transparency and self-regulation in scientific quality assurance

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Abstract

The traditional forms of scientific publishing and peer review do not live up to the demands of efficient communication and quality assurance in today's highly diverse and rapidly evolving world of science. They need to be complemented by interactive and transparent forms of review, publication, and discussion that are open to the scientific community and to the public. The advantages of open access, public peer review and interactive discussion can be efficiently and flexibly combined with the strengths of traditional publishing and peer review. Since 2001 the benefits and viability of this approach are clearly demonstrated by the highly successful interactive open access journal *Atmospheric Chemistry and Physics* (ACP, www.atmoschem-phys.net) and a growing number of sister journals launched by the publisher Copernicus (www.copernicus.org) and the European Geosciences Union (EGU, www.egu.eu). These journals are practicing a two-stage process of publication and peer review combined with interactive public discussion, which effectively resolves the dilemma between rapid scientific exchange and thorough quality assurance. The same or similar concepts have recently also been adopted in other disciplines, including the life sciences and economics. Note, however, that alternative approaches where interactive commenting and public discussion are not fully integrated with formal peer review by designated referees tend to be less successful. The principles, key aspects and achievements of interactive open access publishing (top quality and impact, efficient self-regulation and low rejection rates, little waste and low cost) are outlined and discussed. Further information is available on the internet: www.atmospheric-chemistry-and-physics.net/general_information/public_relations.html

Keywords

scientific evaluation, open peer review, collaborative peer review, open peer commentary

Introduction

The traditional ways of scientific publishing and peer review do not live up to the needs of efficient communication and quality assurance in today's highly diverse and rapidly developing world of science. Besides high profile cases of scientific fraud, science and society are facing a flood of carelessly prepared scientific papers that are locked away behind subscription barriers, dilute rather than enhance scientific knowledge, lead to a waste of resources and impede scientific and societal progress.^{1–4}

Open access to scientific research publications is desirable for many educational, economic and scientific reasons, but one of its key advantages is often not

recognized. Contrary to widespread misperceptions, open access is not a threat but an urgently needed opportunity for the improvement of scientific quality assurance:

1. Open access is fully compatible with traditional peer review, and beyond that it enables interactive and transparent forms of review and discussion open to all interested members of the

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scientific community and the public (public/colaborative/community peer review).

2. Open access gives reviewers more information to work with, i.e. it provides unlimited access to relevant publications across different scientific disciplines and communities.
3. Open access facilitates the development and implementation of new metrics for the impact and quality of scientific publications.

As detailed below, the effects and advantages of open access, public review and interactive discussion can be efficiently and flexibly combined with the strengths of traditional scientific publishing and peer review¹⁻⁴.

Interactive open access publishing

So far, the arguably most successful alternative to the closed peer review of traditional scientific journals is the 'interactive open access peer review' practiced by the journal *Atmospheric Chemistry and Physics* (*ACP*) (www.atmos-chem-phys.net) and a growing number of interactive open access sister journals¹⁻⁴.

As detailed below, *ACP* is by most, if not all, standards (editorial statistics, publication statistics, citation statistics, economic costs and sustainability) more successful than comparable scientific journals with traditional or alternative forms of peer review. The interactive open access peer review of *ACP* is based on a two-stage process of publication and peer review combined with interactive public discussion.

In the first stage, manuscripts that pass a rapid pre-screening (access review) are immediately published as 'discussion papers' in the journal's discussion forum (*Atmospheric Chemistry and Physics Discussions*, *ACPD*). They are then subject to interactive public discussion for a period of eight weeks, during which the comments of designated referees, additional comments by other interested members of the scientific community, and the authors' replies are also published alongside the discussion paper. While referees can choose to sign their comments or remain anonymous, comments by other scientists (registered readers) are automatically signed. In the second stage, manuscript revision and peer review are completed in the same way as in traditional journals (with further rounds of review and revision where required) and, if accepted, final papers are published in the main journal. To provide a lasting record of review and to secure the authors' publication precedence, every discussion paper and interactive comment remains permanently archived and individually citable.

The interactive open access peer review and two-stage publication process of *ACP* effectively resolves the dilemma between rapid scientific exchange and thorough quality assurance, and it offers a win-win situation for all involved parties (authors, referees, editors, publishers, readers/scientific community). The primary positive effects and advantages compared to the traditional forms of publication with closed peer review are:

1. The discussion papers offer free speech and rapid dissemination of novel results and original opinions, without revisions that might delay or dilute innovation (authors' and readers' advantage).
2. The interactive peer review and public discussion offer direct feedback and public recognition for high-quality papers (authors' advantage); they prevent or minimize the opportunity for hidden obstruction and plagiarism (authors' advantage); they provide complete and citable documentation of critical comments, controversial arguments, scientific flaws and complementary information (referees' and readers' advantage); they reveal deficiencies and deter submissions of carelessly prepared manuscripts, thus helping to avoid/minimize the waste of time and effort for deficient submissions (referees', editors', publishers' and readers' advantage).
3. The final revised papers offer a maximum of scientific information density and quality assurance achieved by full peer review (with optional anonymity of referees) and revisions based on the referees' comments plus additional comments from other interested scientists (readers' advantage).

Readers who are primarily interested in the quintessence of manuscripts that have been fully peer reviewed and approved by referees and editors can simply focus on the final revised paper (or, indeed, its abstract) published in the journal and neglect the preceding discussion papers and interactive comments published in the discussion forum. Thus the two-stage publication process does not inflate the amount of time required to maintain an overview of final revised papers. On the other hand, readers who want to see original scientific manuscripts and messages before they are influenced by peer review and revision, and who want to follow the scientific discussion between authors, referees and other interested scientists, can browse the papers and interactive comments in the discussion forum.

The possibility of comparing a final revised paper with the preceding discussion paper and following the

interactive peer review and public discussion also facilitates the evaluation of individual publications for non-specialist readers and evaluators. The style and quality of interactive commenting and argumentation provide insights that go beyond, and complement, the information contained in the research article itself.

The two-stage publication process stimulates scientists to prove their competence via individual high-quality papers and their discussion, rather than just by pushing as many papers as possible through journals with closed peer review and no direct public feedback and recognition for their work. Authors have a much stronger incentive to maximize the quality of their manuscripts prior to submission for peer review and publication, since experimental weaknesses, erroneous interpretations, and relevant but unreferenced earlier studies are more likely to be detected and pointed out in the course of interactive peer review and discussion open to the public and all colleagues with related research interests.

Moreover, the transparent review process prevents authors from abusing the peer review process by delegating some of their own tasks and responsibilities to the referees during review and revision behind the scenes. Referees often make substantial contributions to the quality of scientific papers, but in traditional closed peer review their input rarely receives public recognition. The full credit for the quality of a paper published in a traditional journal generally goes to the authors, even when they have submitted a carelessly prepared manuscript that has taken a lot of time and effort on the part of the referees, editors and publishers to turn it into a good one. While peer review depends crucially on the availability and performance of referees, it has traditionally offered little reward for those providing careful and constructive reviews. In public review, however, referees' arguments are publicly heard and, if comments are openly signed, referees can also claim authorship for their contribution.

Note that most of the effects and advantages outlined above are not fully captured by alternative approaches where interactive commenting and public discussion occurs only after formal peer review and final publication of scientific papers or where the discussion paper and interactive comments are removed after publication of the final revised paper (see below).

Overall, the interactive open access publishing philosophy emphasizes the value of free speech and efficient public exchange and scrutiny of scientific results in line with the principles of critical rationalism. Accordingly, editors and referees are supposed to critically comment and evaluate manuscripts, to

help authors improve their manuscripts, and to eliminate clearly deficient manuscripts. However, authors shall not be forced to adopt the editors' or referees' views and preferences. Instead, the readers shall be able to make up their own minds in view of the public review and discussion. In case of doubt, editorial decisions shall favor free speech of scientists, and in the end, scientific progress and history shall tell if – or to which degree – they were right.

Atmospheric Chemistry and Physics

The interactive open access journal *Atmospheric Chemistry and Physics (ACP)* (www.atmos-chem-phys.net), founded in 2001, demonstrates that interactive open access peer review enables much more efficient quality assurance than traditional closed peer review. *ACP* is run by the European Geosciences Union (EGU) (www.egu.eu), the open access publisher Copernicus (www.copernicus.org), and a globally distributed network of scientists (some 100 co-editors coordinated by an executive committee of five). Manuscripts are normally handled by an editor who is familiar with the specific subject area of the submitted work and independently guides the review process. Details about the largely automated handling and editor-assignment of submitted manuscripts are given on the journal website.

Currently *ACP* publishes some 600 papers per year (about 9,000 double-column print pages), which is comparable to the volume of traditional major journals in the fields of chemistry and physics (ISI Science Citation Index). On average, each paper receives four or five interactive comments, and about one in four papers receives a comment from the scientific community in addition to the comments from designated referees. In total, there is typically half a page of interactive comments per page of original discussion paper, i.e., the volume of interactive comments amount to as much as 50 percent of the volume of discussion papers. The interactive comments show the full spectrum of opinions in the scientific community, ranging from harsh criticism to open applause (sometimes for the same discussion paper), and they provide a wealth of additional information and evaluation that is available to everyone.

About three out of four referee comments are posted without the referee's name, showing that most referees in the scientific community of *ACP* prefer anonymity. There are, however, interesting differences between sub-disciplines: on average about 40 percent of theoreticians and computer modellers sign their referee comments, while only some 10 percent of the laboratory and field experimentalists do so.

It appears that modellers more often provide suggestions and ideas for which they like to claim authorship as a reward. The anonymous referee comments are generally also very constructive and substantial. The *ACP* editors do not actively moderate the public discussions but reserve the right to delete abusive or inappropriately worded comments. Out of the nearly 10,000 interactive comments that have been posted so far, only a handful were removed or replaced because of inappropriate wording, which demonstrates efficient self-regulation by transparency.

Some colleagues have expressed concerns that referees may lose their independence by having access to the comments from fellow referees and from the public. Indeed, referees with limited capacities occasionally seem to duplicate or refer to earlier comments without making up their own mind, but this is fairly easy to recognize and to take into account by editors and readers. Much more often, however, referees constructively build on or contradict earlier comments, which enhances the efficiency of review and discussion substantially. Overall, experience shows that the advantages of enabling direct interaction between referees clearly outweigh the disadvantages.

The average rate of public commenting in addition to the designated referees' and authors' comments specified above (about 25 percent) may appear low at first sight. It is, however, by an order of magnitude (factor ~ 10) higher than in journals with post-peer-review online commenting and in traditional journals without online commenting (about 1–2 percent)^{4–5}. Discussion papers reporting controversial findings or innovations attract many interactive comments (up to 20 and more, see 'Most commented papers' in the *ACPD* online library: www.atmos-chem-phys-discuss.net/most_commented_papers.html). As expected, non-controversial papers usually elicit comments only from the designated referees. Why would scientists invest effort and time commenting on papers which they find interesting but non-controversial?

In most scientific disciplines and journals (certainly in the fields of physics, chemistry and biology with which the author is well acquainted) it is notoriously difficult to assign a couple of competent referees to every manuscript submitted for publication. In fact, this is the main bottleneck of peer review and scientific quality assurance, and most journal editors have to apply lots of manpower and electronic tools (invitation and reminder e-mails, etc.) to obtain a couple of referee comments per manuscript. Accordingly, the initiators and editors of *ACP* are quite satisfied with the overall number and volume of interactive comments. Higher rates of commenting

were not expected and are not required to stimulate self-regulation mechanisms of scientific quality assurance¹.

The editorial and citation statistics of *ACP* clearly demonstrate that interactive open access peer review indeed facilitates and enhances scientific communication and quality assurance. The journal has relatively low rejection rates (some 10–20 percent as opposed to about 50–60 percent in comparable traditional journals⁶), but only a few years after its launch *ACP* had already achieved top reputation and visibility in the scientific community. Accordingly, it has the highest ISI journal impact factor (average number of citations per paper and year) in the discipline of Atmospheric Sciences (51 journals, including meteorology and climate science) and one of the highest across the fields of Geosciences (137 journals) and Environmental Sciences (160 journals). These numbers clearly confirm that anticipation of public peer review and discussion deters authors from submitting low quality manuscripts and, thus, relieves editors and referees from spending too much time on deficient submissions. This is particularly important, because refereeing capacities are the most limited resource in scientific publishing and quality assurance (www.atmospheric-chemistry-and-physics.net/acp_news_jcr_2007.pdf).

Since its launch in 2001, the number of articles published in *ACP* has increased rapidly (by about 20 percent per year), and the same is true for most interactive open access sister journals. The high and increasing rates of submission, publication and citation show that the scientific community values the open access, high quality, and interactive discussions of *ACP*. They confirm that there is a demand for improved scientific publishing and quality assurance, and that the interactive open access journal concept of *ACP* meets this demand.

Accordingly, the EGU and Copernicus have already launched a dozen interactive open access sister journals in the geosciences and related disciplines, and more are in the pipeline: *Atmospheric Measurement Techniques*, *Biogeosciences*, *Climate*, *Cryosphere*, *Drinking Water*, *Earth System Dynamics*, *Earth System Science Data*, *Environmental Resources*, *Geoscientific Model Development*, *Hydrology*, *Ocean Science*, *Solid Earth*, *Social Geography*, etc.

The interactive open peer review concept of *ACP* has also been adopted by the e-journal *Economics*, which was launched in 2007 and involves some of the most prominent institutions and scientists in the field of economics (www.economics-ejournal.org). Alternative concepts of public peer review and interactive discussion are pursued by the open access

publications *JAMES* (<http://adv-model-earth-syst.org>, since 2008), *PLoS One* (www.plosone.org, since 2007), *Biology Direct* (www.biology-direct.com, since 2006), and *JIME* (<http://www-jime.open.ac.uk>, since 1996). Differences between the peer review concepts of these publications and *ACP* will be briefly discussed below.

Financing and sustainability of interactive open access publishing

ACP and its EGU/Copernicus sister journals prove not only the scientific but also the economic viability and sustainability of interactive open access peer review and two-stage publishing. The journals were launched and are operated by the independent scientific society EGU and by the small commercial enterprise Copernicus without public subsidies, private donations, or venture capital as involved in the start-up and operation of other successful open access publishers like PLoS and BioMed Central. After several years of operation, *ACP* and its sister journals have fully recovered the financial investments of EGU and Copernicus during the start-up phase, and they now generate a surplus which supports the start-up of new journals by the scientific society as well as a healthy growth of the commercial publisher generating over a dozen new jobs.

By developing and applying efficient software tools for the handling of manuscripts (submission, peer review and commenting, typesetting/production and distribution), and because minimal time and effort is wasted on carelessly prepared papers (high quality of submissions and low rejection rates as detailed above), Copernicus is able to produce top quality publications at comparatively low cost. The service charges for an average paper (about 10 pages in the final double column format) are about EUR 1000, covering editorial support, free use of colour figures and online supplementary materials (data, pictures, movies etc.), typesetting of both the discussion and the final version of the paper, archiving and distribution of papers and interactive comments (maintenance of websites and servers, electronic copies for open archives, paper copies for copyright libraries, etc.) and overheads. The service charges are adjusted to cover the full costs of publishing (including all services outlined above) and generate a modest surplus (about 10%) that ensures sustainability of Copernicus, EGU, and their publications.

For each paper published in *ACP*, the service charges are levied from the authors or paid by their scientific institution. Recently, the Max Planck Society (MPG) in Germany and the Centre National de

Recherche Scientifique (CNRS) in France have signed contracts with Copernicus for automated coverage of service charges incurred by their scientists. Other scientific institutions are likely to follow these examples, and many national and international research organizations and funding agencies are practising alternative ways of covering open access service charges for their scientists and projects, respectively. Like other open access publishers, Copernicus and EGU are ready to cover the costs for up to 10 percent of the papers published each year, if the authors are unable to pay the service charges (e.g. authors without institutional support or institutions from less developed countries). Currently, most papers published in *ACP* originate from Europe (about 60 percent) and North America (about 30 percent), but the proportion of papers originating from Russia, China, India and other countries is increasing.

The *ACP* open access publication service charges compare quite favorably with the charges levied by other comparable scientific journals and publications:

1. Other major open access publishers such as BioMed Central and the Public Library of Science (PLOS) typically charge more than EUR 1000 for traditional single-stage journal publications.
2. Traditional publishing groups like Springer charge up to USD 3000 for making individual publications in traditional subscription journals freely available online ('Open Choice'), i.e. they levy USD 3000 per online open access paper in addition to charging libraries and other subscribers for access to the journal in which it appears.
3. In the traditional scientific publishing business, where some journals not only limit access to subscribers or sell articles on a pay-per-view basis but also request additional publication charges from authors (e.g. hundreds of US dollars per page or color figure), the total turnover and public costs amount to several thousand US dollars per paper. The annual turnover of journal publishing in the sector of science, technology, and medicine (STM) amounts to around USD 7 billion per year, and some of the traditional publishers – led by Elsevier with a market share of about 30 percent – make operating profits of up to 30 percent and more. Note that a large proportion of the turnover and profit in STM publishing comes from packaging and selling publicly funded research results that are peer reviewed by publicly funded scientists in publicly funded institutions of education and research.

In view of these facts, *ACP* authors and the *ACP* scientific community have had little difficulty

accepting or paying average service charges of EUR 1000 per paper to make *ACP* and its sister journals sustainable. Overall, *ACP* and its interactive open access sister journals prove that top quality (interactive) open access publishing and peer review can be realized and sustained by scientific societies and (small) commercial publishers with tightly limited budgets and without public subsidies, private donations or venture capital.

Key features compared to alternative forms of peer review

To summarize, the key features of the *ACP* interactive open access peer review system that help ensure maximum efficiency of scientific exchange and quality assurance are:

1. Publication of discussion papers before full peer review and revision: free speech, rapid publication, and public accountability of authors for their original manuscript foster innovation and deter careless submissions.
2. Integration of public peer review and interactive discussion prior to final publication: attract more comments than post-peer-review commenting, enhance efficiency and transparency of quality assurance, maximize information density of final papers.
3. Optional anonymity for designated referees: enables critical comments and questions by referees who might be reluctant to risk appearing ignorant or disrespectful.
4. Archiving, public accessibility and citability of every discussion paper and interactive comment: ensure documentation of controversial scientific innovations or flaws, public recognition of commentators' contributions, and deterrence of careless submissions.

Combining all of the above features and effects is the basis for the great success of *ACP* and its sister journals. Missing out on one or more of these features is the main reason why most if not all alternative forms of peer review practised in other initiatives for improving scientific communication and quality assurance have been less successful (less commenting, lower impact/visibility, higher rejection rates, larger waste of refereeing capacities, etc.). For example, features 2 and 3 are not captured in most of the initiatives mentioned above.

Conclusions and outlook

ACP and its sister journals very clearly demonstrate that interactive open access peer review with a

two-stage publication process and public discussion effectively resolves the dilemma between rapid scientific exchange and thorough quality assurance. They have proven that interactive open access peer review does foster scientific discussion, deter submission of sub-standard manuscripts, save refereeing capacities, and enhance information density in final papers.

Technically, interactive open access peer review can be easily integrated into new and existing scientific journals as well as large scale publishing systems and repositories (such as arXiv.org) on the Internet – simply by adding an interactive discussion forum. Moreover, the basic concept of two-stage open access publishing with public peer review and interactive discussion can easily be adjusted to the different needs and capacities of different scientific communities by maintaining or abandoning referee anonymity, shortening or prolonging the discussion phase, adding post-peer-review commenting and rating tools for readers, making all steps/iterations of peer-review and revision transparent, adding further stages of publication for re-revised manuscripts, establishing feedback loops for editorial quality assurance, etc.

Besides communication and evaluation of scientific results, interactive open access publishing and peer review may also be applicable for efficient evaluation of scientific research proposals in the form of citable discussion papers. Again all involved parties could profit from public documentation, scrutiny and citability. At first sight, it might appear that the authors of a proposal would run a high risk of 'losing' innovative project ideas to the public, if their proposal were not immediately supported/funded. In practice, however, they would be better protected from (hidden) plagiarism and obstruction by competitors, and the citable publication would actually help them to claim authorship, precedence and recognition for their ideas. At the same time, the scientific community and society at large would profit from rapid dissemination of innovative ideas.

Overall, interactive open access publishing and peer review can strongly enhance scientific exchange and quality assurance and provide a basis for efficient use and augmentation of scientific knowledge in a global information commons⁷. Moreover, public review, discussion, and documentation of the scientific discourse can serve as an example for rational and transparent procedures of settling complex questions, problems, and disputes. It is a model for further development of the structures, mechanisms, and processes of communication and decision making in society and politics in line with the principles of critical rationalism²⁻⁴.

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Changing visions of parliamentary libraries: From the Enlightenment to Facebook

International Federation of
Library Associations and Institutions
36(1) 47–60
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359574
ifla.sagepub.com



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Library of the European Parliament

Abstract

Parliamentary libraries' founding ideal is of unbounded rationality: Members making decisions using full information, aided by the library. This is assessed as a necessary myth projecting the modernity of the parliament and the value of the library. The standard narrative of parliamentary library history – that changing visions are responses to the needs of Members – is questioned. In reality, the library may not fulfil its idealized role and in any case it no longer signifies modernity. The myth has become a liability. An alternative paradigm of Members' information work is proposed based on the concept of bounded rationality and, in particular, the work of Gigerenzer on 'fast and frugal' decision-making. Rather than focusing on quality of information produced/delivered, parliamentary libraries should focus on quality of information actually used. Improving ease of access to information and focusing on specialist Members may have more impact than incremental improvements of product quality. Parliamentary libraries must also consider the growth in Members' support staff and adapt their marketing to a business-to-business model. A focus on core competences and their deployment in new areas of parliamentary information work is one vision for the future. The paper represents the personal views of the author and does not reflect the views of the European Parliament.

Keywords

parliamentary libraries, use of heuristics by politicians, use of information in political decision-making, history of parliamentary libraries, information history

Introduction

The parliamentary library is based on the ideals of the Enlightenment: to serve a curious and well-informed Member who uses reason and science to hold the executive to account and to contribute on legislative and policy issues. But while this vision may have been realizable in 1800 when the parliamentary library was born, is it any longer? The executive has grown in scale and in scope, covering many more issues in which policy choices and consequences are complex.¹ The populations represented are more numerous. Information has increased in volume, turnover and diversity of format and channel. Individual Members, by contrast, are not necessarily more numerous than in the assemblies of the 19th century.² Looked at simply, Members should be in a situation of gross task and information overload. How can they still be the fully-informed decision-makers of the 18th century

ideal? What relevance has a service that potentially *adds* information to the supposed overload?

The references in the paper lean very heavily to Westminster and, to a lesser extent, the US Congress and European Parliament. There appears to be little independent work published on *any* parliamentary libraries and there has, apparently, been "little investigation of information use as part of political decision-making".³ The research base is narrow and the conclusions must be provisional. The paper combines evidence from published works with operational knowledge from the European Parliament library.

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This has been supplemented by knowledge generously shared in the IFLA Section, where parliaments from around the world are represented. The discussion does not refer in particular to the European Parliament Library (unless specified) and the analysis is my responsibility, not that of the Section.

For convenience, in the paper 'parliamentary library' is used to signify the whole range of services provided by IFLA Section members *including the parliamentary research function and those styled as 'information' or 'documentation' services*. 'Member' is used throughout to refer to elected representatives. 'Assistant' is used as the title for the personal research staff of Members.

Whose 'changing visions'?

Change in parliamentary libraries seen as an internal process of parliaments

The 'changing visions' of the parliamentary library can be broadly summarized:

1. Origins: a 19th century book collection for the educated gentleman.⁴
2. From the late 19th century – the new scientific librarianship and 'documentation'.
3. From c.1914 – the development of reference services; and then, later, analytical and research services.⁵
4. From the 1960s/1970s – the use of computers to store and communicate information.
5. From the 1990s – web-based services; the decline of the book.

Histories of parliamentary libraries tend to present change as local adaptation to the needs of Members. This explanation is undeniable but it is not the whole story. The history of change is one of importing ideas and standards from elsewhere, not only spontaneous adaptation to local need.

The Assemblée Nationale in France had the first parliamentary library (1796) closely followed by the United States Library of Congress (1800), their origins in revolution and the Enlightenment.⁶ Since then, the library of the US Congress (and, later, others) have acted as references for adequacy, for what a modern institution requires.⁷ There is no universally-accepted method of measuring information service need, use, value or workload. So using benchmarks is a practical solution – but then the process is not a simple response to local need. For example, in 14 of the EU member states the parliamentary library was founded in the same year (or very shortly after) the parent institution came into its modern form.⁸ This suggests that the

library was created as a 'normal' attribute of a modern parliament; it cannot have been a response to Members' direct experience. One only has to look at some of the magnificent buildings of 19th century parliamentary libraries to get the message: 'this institution takes knowledge seriously', they are 'knowledge palaces'. But how much was this message aspiration, how much a reflection of daily work? Further, as a hypothesis based mainly on the UK history, the modernization of library services has been advocated forcefully by, at most, a few Members. There is little evidence of mass demand for reform based on practical experience.⁹ In the UK case, 1945 marked a turning point but interest mainly came from *newly-elected* Members. External experts appear regularly in the UK case as motive forces for improved library services, from the 1930s onwards.¹⁰ The developing body of parliamentary library professionals has also played an increasing part in reform worldwide.¹¹

Adaptation as an outcome of change in information management at societal level

The models for service development come also from the wider information world. The first parliamentary libraries emerged in a new age of information:

"It was during the age of reason and revolution, between roughly 1700 and 1850, that information . . . 'came of age'. During the Enlightenment new institutions, techniques and formats began to emerge, furthering knowledge and enhancing the storage and communication of information: the encyclopedia, the scientific academy, the salon . . . Existing elements of the information infrastructure – publishing activity and libraries for example – intensified and proliferated . . ." ¹²

The scientific parliamentary library of the late 19th century emerged from an information world where new technology was speeding transmission and proliferating formats – "Documentary chaos ensued. Contemporaries testified to the information overload of the time."¹³ Library science was one solution to this overload. This period saw also the rise of mass production and of large corporations – a 'second industrial revolution' "marked by a realization of the importance of scientific and technical knowledge to production, thereby enhancing the value of research and development and of information sources and services".¹⁴ In the United States this spawned new corporate and public information services that created the professional framework used by parliamentary libraries in the 20th century, beginning with the US Congress Legislative Reference Service set up in 1914. In Britain,

company libraries developed mainly after 1914. They tended to exist in new industries, where the library was often a prominent and expensive showpiece demonstrating the modernity of the company.¹⁵ They were also seen as practically useful, but

“the ‘output’ of early company libraries in respect of value added to corporate profits and efficiency could not be determined precisely. This did not concern the enterprises that pioneered company libraries. For them, the high utility of the company library, although not quantifiable, was unquestionable.”¹⁶

The use as a symbol of modernity; the willingness to accept a high cost and confidence in its value despite the lack of data on outcomes – this is reminiscent both of the grand 19th century parliamentary libraries and the more recent case of company websites. For the UK, the interest in a scientific approach to information seems to have peaked around 1945–1950 – precisely when complete reform of the House of Commons Library was proposed. Historically, the service visions of the modern parliamentary library have been established elsewhere.

The double life of the parliamentary library

In summary, parliamentary libraries have developed in part as *symbols* signifying that their institution is modern and properly informed. Further, the changing visions of the parliamentary library derive primarily from the wider world and from professionals, academics and a few parliamentarian reformers; and not directly from the practical and expressed needs of most Members. To stress: the argument is *not* that the parliamentary library has lacked real utility; rather that its utility and evolution has perhaps been something apart from the public myths. The myths have justified resources and innovation and in those terms can be seen as ‘necessary’.

Is ‘parliamentary library’ still a potent concept?

Is ‘library’ a powerful image of modernity for parliaments today?

If parliamentary libraries are founded on a myth, what happens when that myth loses potency? Does ‘library’ still signify modernity? One indication came when a new parliament was established in 1999:

“Those of us who were planning the research and information service...made a number of crucial decisions...First of all, we decided *not* to call it a library. There was no collection of books, no room

to house them...no suggestion that there would be a quiet atmosphere in which to study them. The emphasis was on speed, service, and innovation. We needed a brand; we needed to make an impact, and we needed to capture the imagination. SPICE, the Scottish Parliament Information Service, was born.”¹⁷

A far cry from the apparent confidence in ‘library’ of the 19th and earlier 20th century! With positive motives, it was consciously decided to *obscure* that the service was a form of library.¹⁸

If the library was the corporate website of the 19th and earlier 20th centuries, what is it in the 21st century? Parliamentary libraries, like other libraries are in

“a ubiquitous information environment, where information professionals and knowledge providers are no longer the dominant players nor, indeed, the supplier of first choice. Short of appropriate consumer theories, visions and a robust and appropriate evidence base there is a danger that the information professions are becoming increasingly rudderless and estranged from their users and paymasters. The warning signs are already there. Public libraries are in real trouble and academic libraries risk being decoupled from their user base as users continue to flee the physical space.”¹⁹

Parliamentary libraries have been less concerned with book collections and reading rooms than public or academic libraries but may still be affected by the decline of the ‘library’ concept. And it is doubtful if the research service component of ‘parliamentary library’ is immune to scepticism – as can be seen in the work of Wu discussed below.

Does practical performance compensate for loss of potency as a symbol?

If historically there was no *necessary* connection between library functions and the needs of most Members, then do they actually fulfil their supposed role? One survey of the available research reports: “Overall, such research as has been carried out paints a somewhat bleak picture of decreasing awareness and use of parliamentary library services, suggesting a growing gulf between service and user understandings of “need”, while users turn increasingly to a growing variety of alternative sources of information.”²⁰ Another observer summarizes the ideal model of parliamentary research:

“This model is simple: a problem first exists, and then researchers study the problem and come up with

compelling, empirical findings. Members . . . in turn, construct a public policy to deal with the problem on the basis of these empirical findings. The result is a policy moulded by the preceding scientific analysis.”²¹

Wu argues that, for the US Congress, the model lacks evidence to support it – he claims that “Instead, there is widespread agreement that the research findings that go to Congress hardly have a direct impact on public policy outcomes.”²² Wu suggests that research products are used mainly when they reinforce an existing political position. He summarizes his explanation for why research does not make the intended impact:

“Congress usually does not apply scientific knowledge in the making of public policy because: first, members of Congress are more interested in adopting policies that will help them get re-elected than policies that conform to standards of rationality and efficiency; second, bargaining, compromise and the reconciliation of political interests are a necessary part of the legislative process; and, lastly, members of Congress favour popular conceptions of causal logic. Policy-oriented research, in turn, does not compel legislators to adopt a certain alternative because research findings are often ambiguous, inconclusive, incongruous and even contradictory to other research findings.”²³

It is important to stress that Wu presents no original evidence for lack of impact. His paper relies on earlier studies which would themselves require review before accepting his conclusions²⁴. Discussion in the IFLA Section indicated that it is difficult to trace impact, let alone measure it, even with inside knowledge that library information has been used. With regard to the Congressional Research Service (CRS) in particular, it is understood that they aim to perform a consultative role throughout the deliberative process. It is not simply a question of isolated research reports on a topic but a dialogue with individual Members in which information is delivered as needed to clarify options throughout the process. The impact of a (confidential and extended) dialogue might be difficult to assess even for the participants. So how external academic researchers can accurately determine impact is unclear. But the fact that Wu can even propose the argument is itself an indicator: if the oldest and probably the most powerfully-equipped parliamentary library does not make an impact that is clear and indisputable, if it does not unequivocally fulfil the ideal role, what chance for the rest?

Towards an alternative paradigm for members' use of information

The traditional paradigm: unbounded rationality

The ideal Member served by the ideal parliamentary library is a vision that seems to be melting into air after two hundred years of post-Enlightenment life. Can we reconsider the question of how, really, Members work with information? Writing of libraries in general, Nicholas et al make the accusation: “information professionals have been bleating on about ‘users’ since time immemorial, but they have not really made that much progress in understanding them, certainly not their behaviour at the coal-face”.²⁵ Parliamentary libraries may have a better understanding of their clients but this is not a time for complacency.

That modern Members face information overload is a commonplace amongst information professionals.²⁶ (Curiously, neither Members nor political scientists say much about it. They speak of *time pressure* as the critical problem – which is not the same thing).²⁷ But information overload is not new in human evolutionary terms or in the historical case of Members.²⁸ The problem stands out now because of the volume of information which, *in the context of a belief in full-information decision-making*, appears unmanageable. One study of Members summarizes this full-information model:

“A decision-making process is a course of action or procedure that results in a formal judgement or choice being reached. For this to be possible, choices or options must be provided from which selection can be made. The ability to evaluate or choose from options is underpinned by access to accurate, reliable and comprehensive information about the choices available. It is essential that decision makers have access to information that is free of bias and/or that reflects the full range of opinion existing. The transformation of information about these options into knowledge or intelligence is central to the effectiveness of the decision-making process. [It is contended that] the quality of the decision relies upon the quality of the information available.”²⁹

It assumes that a rational political decision can be reached only by comprehensive information gathering and analysis. But as the lead author (Marcella) herself noted in a later study, it is impossible to achieve this for all decisions: “Many of those in parliament do not know what they need to know, *cannot possibly know everything that they need to know*, and frequently cannot predict what they will need tomorrow or next week” [emphasis added].³⁰ Wu describes

“members of Congress who are flooded with scientific data, research findings and cost-benefit analyses from the support agencies, from the executive branch, from various interest groups and independent research institutes, and from epistemic communities and academic world, on almost every imaginable policy issue.”³¹ Is it feasible for parliamentarians to deal with that flood and to work according to the unboundedly rational model? Is it even how they *should* work? Do we require them to be scientists or to be representatives who can reach good decisions in good time?

An alternative paradigm: bounded rationality

In the field of economic theory Herbert Simon developed the concept of ‘bounded rationality’ as a model of decision-making. One of the leading followers of Simon’s work is Gerd Gigerenzer.³² Gigerenzer, writing with Selten, summarizes that “models of bounded rationality...dispense with the fiction of optimization, which in many real-world situations demands unrealistic assumptions about the knowledge, time, attention, and other resources available to humans”.³³ They argue that it is “possible that simple and robust heuristics can match or even outperform a specific optimizing strategy”.³⁴ Information is the critical issue:

“A key process in bounded rationality is limited search. Whereas in models of unbounded rationality all relevant information is assumed to be available already, real humans and animals need to search for information first. Search can be for two kinds of information: [for] alternatives....and [for] cues (that is, for reasons and predictors when deciding between given alternatives). Search can be performed inside the human mind (memory) or outside it (e.g. library, internet, other minds). Internal search costs time and attention, and external search may cost even further resources, such as money. Limited resources constrain institutions, humans, animals, and artificial agents, and these limitations usually conflict with the ideal of finding a procedure to arrive at the optimal decision.”³⁵

Gigerenzer and Selten argue that “contrary to conventional wisdom, limitations of knowledge and computational capability need *not* be a disadvantage”.³⁶ Taking ‘cues’ from the environment, people can use simple decision rules to reach a useful conclusion. Complete information optimizing may take too much time, and be achieved too late for a decision – “Simplicity, by contrast, can enable fast, frugal, and accurate decisions”.³⁷ Bounded rationality is not necessarily less rational than unbounded rationality. Significantly, these ‘fast and frugal’ methods are not

universal but depend on knowledge of particular environments.³⁸

Gigerenzer and Selten describe three typical processes of bounded rationality models:

“1. *Simple search rules*. The process of search is modelled on step-by-step procedures, where a piece of information is acquired, or an adjustment is made...and the process is repeated until it is stopped.

2. *Simple stopping rules*. Search is terminated by simple stopping rules, such as to choose the first object that satisfies an aspiration level. The stopping rule can change as a consequence of the length of search or other information...Simple stopping rules do not involve optimization calculations...

3. *Simple decision rules*. After search is stopped and a limited amount of information has been acquired, a simple decision rule is applied, like choosing the object that is favored by the most important reason – rather than trying to compute the optimal weights for all reasons, and integrating these reasons in a linear or nonlinear fashion...”³⁹

The search process “distinguishes two classes of models of bounded rationality: those that search for alternatives (e.g. aspiration level theories such as satisficing...) and those that search for cues (e.g. fast and frugal heuristics...)”.⁴⁰ The term ‘fast and frugal’ in this paper therefore refers to one type of bounded rationality.

Gigerenzer and Selten summarize that simple heuristics work because they

“can exploit structures of information in the environment. That is, their rationality is a form of ecological rationality, rather than of consistency and coherence. A second reason is the robustness of simple strategies compared to models with large numbers of parameters, which risk overfitting. Third, there are real-world situations involving multiple goals (e.g. accuracy, speed, frugality, consistency, accountability) that have no known common denominator, which poses serious problems to optimization, but can be handled by models of bounded rationality”.⁴¹

Relevance of ‘bounded rationality’ to information issues in parliaments

Gigerenzer uses ‘search’ in a broad sense but his description has parallels in the description of the information search methods of Members and Assistants – if we ignore the negative interpretations placed on them:

“users are relatively easily satisfied with any information on a subject that will serve a short-term,

uncritical need, the primary concern being that it is swiftly and easily achieved. Searchers will often seek information that will suffice, rather than a comprehensive or rounded view of an issue.”⁴²

A more positive interpretation of this behaviour is possible. *If* these Members and Assistants have a good understanding of their political environment, *then* they may be able to use poor or limited information – and be aware of its poor quality – but still reach a ‘good-enough’ decision. Professionals see what they consider poor quality searches and results but they lack the environmental knowledge to understand the process in the same way as the Assistant or Member. This is not to deny the existence of major information literacy challenges in parliaments, as elsewhere. It is only to suggest that the issue is not as clear-cut as it might seem for library professionals.

Environmental knowledge is part of the professional differentiation of the Member:

“Members of Parliament possess a special and important body of knowledge and apply this knowledge in their political work: knowledge about rules of the game (both constitutional and parliamentary); detailed knowledge about political ideologies (complex goals and the most effective means to reach those goals); and very considerable knowledge about...parliamentary roles... These are the principal components of Westminster’s political culture which is not, in anything like its fully developed form, acquired by anyone besides members of Parliament.”⁴³

Wu notes that scientific research raises the level of debate: “scientific research has a... subtle, indirect, and cumulative effect on congressional policy by changing the way legislators and their staffs look at the world, by setting the terms of debate, by transforming the way problems are identified and addressed, and by altering the very nature of legislation”.⁴⁴ This refers in part to giving cues to reduce the number of options considered; and also in part to improved environmental understanding. Both can impact positively on the quality of decisions.

Bounded rationality appears much closer to what is known of Members’ and Assistants’ working styles than a model of ‘unbounded rationality’. We might expect that they have a repertoire of approaches including that of ‘full information’ and the ‘fast and frugal’. The latter supposes that they use limited information, their own knowledge and some cues from the environment to reach a decision. The cues might be e.g. “what are the Members who are expert in this field saying”; “what is the political party research on this”; “how would this policy position

look in the tabloid press/in my constituency”; the views of personal contacts, trusted NGOs or experts; media commentaries. Is “political instinct” just a good understanding of their environments and heuristics to identify what is politically viable or advantageous?

I have not, so far, traced any studies of individual parliamentarians that discuss this fast and frugal model. There are some related references in other areas of political science. The first case discusses a model of political decision-making which

“presumes that the government is able to evaluate the entire range of policies... In the fields of political science and cognitive science, an increasing body of research has led to believing that this assumption cannot be realistic... First of all, budgetary procedures involve a broad array of expenditures, which implies a quasi-infinite number of possible policies. Second... governments usually make use of reference sources [which are complex documents, so that]... evaluating the consequences of a single policy proves in itself a costly process in terms of time spent... Third, many experimental results from the psychological literature show that human beings have a tendency to use heuristics (i.e. easily learnt and applied procedures) when dealing with complex problems, complex decisions, or incomplete information.”⁴⁵

The second refers to studies of foreign policy decisions by politicians:

“potentially a very lengthy decision-making process is simplified dramatically by eliminating all those options that are... ill-advised [in terms of domestic politics]. They are not even considered as potential decisions. Whatever options are left... are then examined through a number of heuristic processes that narrow the choices until a course of action is chosen”⁴⁶

Lost in the myth?

We arrive at what appears a bleak conclusion for parliamentary libraries. They owe their existence in part to being a symbol of modernity but that symbolic power is waning. They are exposed to external trends over which they have little control, so are they anyway free to have a ‘vision’ of their own? The research function faces a claim that it has made little direct impact on policy outcomes. They ostensibly exist because decision-making should properly be driven by scientific information but there is a shortage of conclusive scientific evidence of their own value!⁴⁷

They are founded on a model of Member behaviour that was probably never valid and appears superseded. The parliamentary library presenting a balanced and comprehensive portfolio of scientific information is not *necessarily* part of a fast and frugal decision-making world. Where do parliamentary library managers go from here?

Beyond the myth: developing a new agenda for parliamentary libraries?

Adapting to the bounded rationality model

For some, the bounded rationality model may be a liberation. Within the myth of full-information decision-making, ‘sub-optimal’ information processes were perceived as a problem for clients to which a solution had to be found; and their existence was a failure of the library. If those frugal processes are understood as both inevitable and (sometimes/often) superior then libraries are released to accept the clients for what they are (what they must be). Limited use of library services is not a failure, and an expensive research report that is read by only one or two people can be excellent value for money. Libraries can pull back from trying (or pretending) to serve all Members with all things and concentrate on where they can actually make an impact.

Members and their offices deal with a vast range of information problems. The approach to these problems can range as illustrated in the scale below, but time pressure prevents all decisions being made with ‘full information’.

‘full information’	informed ‘fast and frugal’	‘own knowledge’
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Those topics located further left in the scale should be more promising for uptake of research or information services. The approach will vary in part according to the perceived importance of the topic – impact, public profile, contentiousness etc. Specialist Committee issues may receive more time. Carey reports work by Gilligan and Krehbiel on the US Congress that offers one explanation for this:

“individual legislators are motivated to collect information on policies that improve outcomes for all in exchange for policy concessions on the margin that can be translated into personal electoral support. Committees serve as seed beds both of policy expertise and, via their control over the legislative agenda, of opportunities for their members to secure advantageous policies on the margin.”⁴⁸

It will also vary according to the style of the Member. A seminal analysis of Members by Searing identified four main informal roles for backbenchers: ‘Policy Advocate’, ‘Ministerial Aspirant’, ‘Constituency Member’, and ‘Parliament Man’. These then divide into subtypes, which for Policy Advocate included ‘Generalist’ and ‘Specialist’.⁴⁹ Policy Advocates are likely customers of library services and in the Westminster of the 1970s they accounted for around 40 percent of Members, two-thirds of them being ‘Specialists’. The ‘Specialists’ “don’t spend much time in the Chamber... they concentrate on research and leverage, on gathering information and then applying pressure behind the scenes...”.⁵⁰ The intelligence gathered is not primarily formal information: “While important books in the field are read, and research is done in the House of Commons Library, Specialists seek current and first-hand knowledge, much of which comes from contact with organizations and individuals outside Parliament” and “Contacts with key individuals in the field can be very useful too, particularly for collecting inside information”.⁵¹ This pattern is still familiar today.

If we adopt (or adapt) Searing’s categorization then the assumption is that the *normal* market for information-rich products such as research reports is not ‘all Members’ but only a proportion of them. The proportion for specific topics will be much smaller again. The task of the library, then, becomes more precise: to identify ‘Specialists’ on a topic and ensure they receive the detailed information useful to them *and* presented in a way that is useful to them. This focuses resources where they will get results rather than dissipating them in trying to deliver a specialist product to suit all Members.

To serve Members adopting the ‘fast and frugal’ route on an issue there appear several options. One is to target the ‘pathfinders’ such as specialist Members. This should have a ripple effect as Specialist Members are likely guides for others. The notion is similar to the concept of ‘information gatekeepers’ but with the variation that they do not distribute information but rather give cues for decisions. By keeping specialists well-informed the quality of decision-making *in general* may be raised. In parliaments (or committees within them) where turnover of membership is high then Member expertise does not develop⁵² – so presumably there are fewer cues, making for a more difficult information environment. The second obvious group of pathfinders is the political party research apparatuses which in some parliaments may be another important source of signals. The CRS concept of consultancy to individual Members is one method of clarifying options (but it is resource

intensive, possibly even for the Member). Another option is publishing research reports so the salient points may reach Members through the mass media – the story of parliamentary research on ‘Echelon’ is one, probably accidental, example of how this can work.⁵³ Libraries may also produce ‘briefings’ rather than research studies – defining briefings as short summaries of the literature with known policy options and stakeholder positions clearly and concisely presented. This offers what, apparently, Members want – a guide which they can quickly assimilate and fit with other knowledge to reach a conclusion. As one study on information research in a parliament noted:

“For political group advisors and MEPs’ assistants, volume was significant, with a vague sense of what this desired volume might be – “comprehensiveness without volume”.

In the case of processed information which had been already analysed and synthesised, clarity and conciseness were also mentioned as important qualities, in particular where respondents must make a judgement on very complex issues...”.⁵⁴

It is striking that lobby groups’ communication of information is often in clear language; concise; and with a graphical presentation that encourages reading and highlights key points. The products of parliamentary research services, by contrast, tend to be drafted in an academic style and to be conservative in their graphical presentation. Are lobby groups wasting their time or do they know their readers better? Is making something easy and attractive to read necessarily ‘dumbing-down’? *What value has high-quality content if it is not actually read or used?*

There is also an indirect route for the library to improve the quality of information in decision-making. The bounds put on search are not fixed – if the cost/benefit of search is improved then it may be expanded. The critical point in this resource decision is *not* necessarily intrinsic information *quality* – understandably the professional focus of parliamentary libraries – but how *easy* it is to get the information and to process it for decision. Client research in the European Parliament points to ease of use and speed of response as critical. The *perceived* transaction costs (in time) of using the library are a major barrier to potential users testing the service. For actual clients, the *helpfulness of staff* is ranked first as the reason for using the service, ahead of quality of information and other factors. Frequently, in today’s environment, clients call on libraries only when their own methods fail. If they are (fancifully) considered to be on the ‘information superhighway’, then the library is

the emergency breakdown service. Of course people in a crisis want reassurance and a friendly and fast response. But in parliamentary libraries, what level of management support or attention is given to daily person-to-person service or service processes compared with e.g. the management of research processes or of library resources? (Library staff are naturally helpful but this is not the same as an approach supported by the whole organization). Yet the quickest route to improving the quality of information *actually used* by Members may come from such measures. The priority could be to make access easier, faster and more user friendly – and ensuring that this is perceived by potential clients – rather than adding increments of quality to library products.

Current innovations in parliamentary libraries

Away from the myths, parliamentary libraries are busy innovating worldwide. A short catalogue based on contributions from members of the Section was presented at the IPU/ASGP/IFLA conference in Geneva.⁵⁵ In summary, the main components of innovation are:

1. Methods to understand Member needs as the basis for innovation.
2. Developing the capacity to change; fostering creativity and collaboration.
3. Improving practical quality of *service*, not just of *products*.
4. Increasingly customized information, with more attention to speed of delivery and ease of use.
5. Stronger marketing of the added-value in information quality that libraries give.
6. Improving access to information resources (in-house and external)
7. Enabling clients to help themselves – training in technology and information work.
8. Politically useful information – e.g. constituency data, media monitoring services.
9. The library and research functions are converging.
10. Integration of information work into parliamentary work processes.
11. Knowledge-sharing and communication roles – in-house and externally to citizens.
12. Mobile and audio/video services.
13. Contracting out of research; developing an in-house ‘intelligent client’.
14. Providing information for politics – (quality but not necessarily balance, on demand).

Many of these indicate an understanding of a more realistic role for parliamentary libraries.

In terms of change, we can add that the rise of Assistants in relatively recent history creates a new marketing environment. Libraries in general have customarily faced a market of individual consumers. It is indeed individuals who present themselves for service. But much of the time the parliamentary library is *not* really dealing with an *individual client*. Many Members are running an office of several staff. The Member is the equivalent to the owner of a small business with a more or less structured team working in it. Approaches to information search and processing are not decided by *individual* clients but as an outcome of how the business functions. If there is any doubt about the categorization as a kind of small business consider the case of the US Congress where a Representative may hire up to 18 full-time staff, typically organized in a developed structure.⁵⁶ The much smaller Members' offices at Westminster were subject to an observational study of information seeking behaviour:

“In the Case 1 office, staff meetings were not held and staff were not systematically apprised of information need. This style had drawbacks in that the strict demarcation of roles within the office may have hindered the flow of information. The office often felt hectic and pressurised and the lack of full-time staff was not conducive to the full exploration of information possibilities. The Case 2 office was characterised by its openness and by the manner in which the work in hand was discussed. Regular staff meetings were held which allowed for free discussion and delegation of the workload. Staff could develop a clear understanding of the information required and of the parameters of the search to be conducted.”⁵⁷

Understanding this context would surely be important to effective service – it is not enough to know the individual client. Most marketing advice concerns *consumer* marketing but parliamentary libraries need also to consider *business-to-business* marketing methods. One significant difference is the emphasis on building long-term relationships with the buying organization (not just with the ‘owner’ but with others who influence ‘buying’ decisions) more than on advertising.

This understanding of a ‘business’ market indicates a weakness in the concept of the ‘bookless parliamentary library’. In feedback within the European Parliament, library books are indeed sometimes disparaged as a product which simply is not relevant to daily parliamentary business. Yet book loans in the European Parliament have increased threefold in the last 10 years. Much of this individual use is by Assistants and can be classed as ‘keeping up to date’ and

‘understanding the environment’. Such environmental scanning should facilitate better information decisions by Assistants. But the process is individual and not always seen as connected with the ‘business’. The heads of business (Members) are more likely to perform environmental scanning through personal contacts and networks. Future development, presentation and justification of services can be more effective with this understanding of distinct ‘business’ and ‘individual’ market sectors.

A practical vision for an uncertain future

Any information business today can encounter abrupt, unexpected and fundamental change. But in developing a vision in the European Parliament Library in 2008/9 we concluded that we can secure future development on four anchors. None of these involve buildings; or collections; or particular technologies, services or products. It is a vision that puts people at its heart – Members, Assistants and the Library staff.

1. ***The mission: ‘a well-informed parliament’*** – whatever that takes to achieve, without undue regard for traditional preconceptions and limits to what ‘library’ means.
2. ***Continuous learning about clients.***
3. ***The core competences*** (see Figure 1). The “daisy” in Figure 1 shows the critical areas of knowledge for the European Parliament Library. Individual elements are held by other units of the parliament also; it is the combination which is distinctive. This set of capabilities may not be relevant in other libraries but the exercise of identifying key capabilities might be. Recognizing them already gives a direction for the future: to hold, share and build these areas of knowledge within the library. As other parliaments demonstrate, the peculiar combination of skills can be used beyond library walls. It may be deployed externally in improving communication with citizens, as the Chilean parliamentary library has done using ‘Facebook’ as one tool. (This is arguably a new symbol of modernity – the 19th/20th century parliament demonstrated its commitment to involving scientific knowledge in decision-making by building libraries; the 21st century parliament demonstrates commitment to developing and involving the knowledge of citizens in decision-making). The bundle of competences can also be deployed internally to improve access to internal parliamentary information (as in some institutions) and to support a wider ‘knowledge management’ agenda.

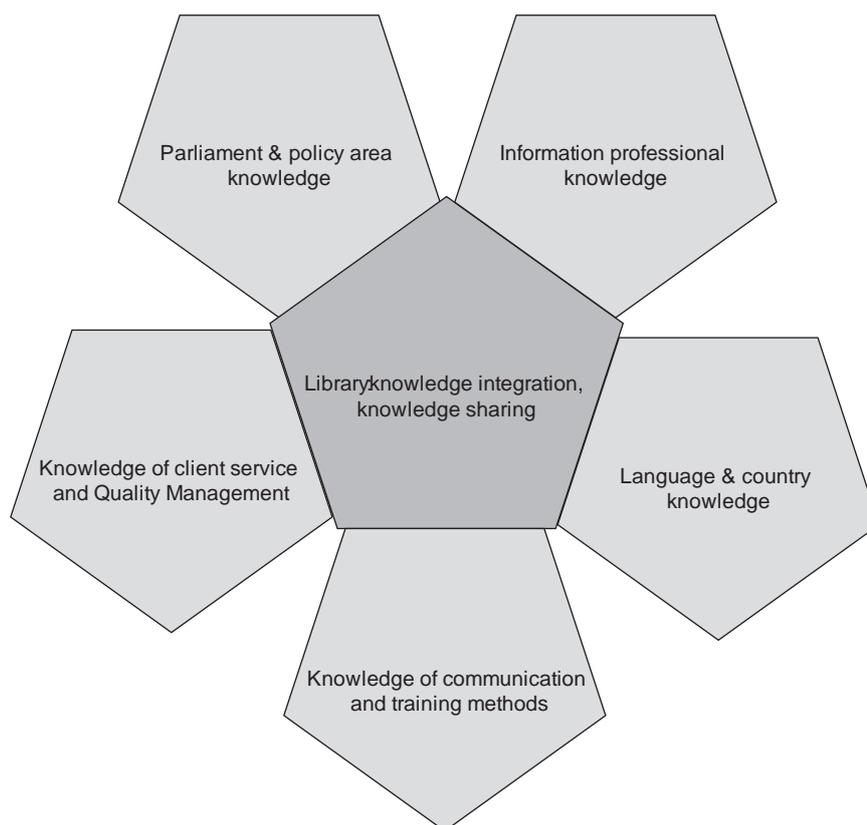


Figure 1.

Although we did not use their work as a direct source, the 'daisy' approximates to the notion of 'core competence' put forward by Hamel and Prahalad.⁵⁸ For them, a "competence is a bundle of skills and technologies rather than a single discrete skill or technology... [It] represents the sum of learning across individual skill sets and individual organizational units".⁵⁹ This bundle must be integrated: "A core competence is a tapestry, woven from the threads of distinct skills and technologies".⁶⁰ To be a *core* competence for Hamel and Prahalad it must offer some specific advantages and especially it should offer routes to new products, new product markets and to the markets of the future.⁶¹ For the European Parliament Library, this focus on competences gives a long term perspective in a time of rapid change.

4. **The values and the way we work.** This is the heart of the 'daisy' presented above. Without social integration of staff to hold the parts together; organizational and individual capacity to change successfully; ways of working that meld the areas of knowledge and realize creativity – then the library cannot function and has no basis for the future. Many skills and areas of

knowledge can be hired quickly but one cannot quickly replace integration, trust, common ways of working, group creativity or a sense of common purpose. For the Library of the European Parliament, holding on to values and ways of working and ensuring their transmission to new staff – even through periods of intense change – are *the* critical tasks for the future.

While anchored on these four points, the service must (paradoxically) show agility as well as resilience and opportunism in finding ways and places to add value and connect with customers.

Conclusion

Parliamentary libraries are lively places constantly innovating to engage with the real work of Members. But they work around a dead heart – the foundation myth of the scientific Member and decision-making based on unbounded rationality. This myth pervades discussion of parliamentary libraries. If this myth was once at least glorious and potent, it now seems more of a liability, failing to convince and trapping services with a role in which they must fail. Bounded rationality is more plausible as a model of Members' work.

The agenda that this opens is centred on living, breathing Members and Assistants. Parliamentary libraries are already working in this direction but the change in paradigm is not publicly acknowledged. It is a challenging future with few certainties. But the value of library competences also extends beyond the conventional library and may never have been higher. Parliamentary libraries risk irrelevance and decline if they rest on their myth and on their historical value as symbols of a modern informed parliament, just as much as if they rely only on their physical assets, collections, or academic research capacity.

Notes

- In terms of scope, for the UK Rush (2001) reports research from 1970 showing that 80–90 percent of parliamentary questions could not have been asked in 1900 because they were not matters of government responsibility (p. 29). An indicator of complexity is the volume of legislation: for Acts the average number of pages per year went from 237 in 1831 to over a thousand after the mid-1960s and almost three thousand in the 1990s. Secondary legislation increased from 995 pages in 1900 to 3327 in 1994 (*ibid.* pp. 34–35). An indicator of scale of the executive in the UK is the number of non-industrial civil servants: 1832 21,000; 1902 50,000; 1930 111,000; 1960 380,000; 1980 542,000; 1998 430,000 (*ibid.* p.31).
- In the UK since 1800 the number of Members has varied between 615 and 670, while the population was 16 million in 1801 and 59 million in 1998 (*ibid.* p. 221).
- Marcella et al. (1999) p. 168. The situation appears unchanged ten years later.
- See e.g. the House of Commons in the 19th century: “it came to resemble something between a large-scale country-house library and an aspiring national collection.” *History of the House of Commons Library* (2005) p. 5.
- “In 1914, Congress passed legislation to establish a separate department within the Library of Congress. President Woodrow Wilson signed the bill into law, and CRS, then called the Legislative Reference Service, was born to serve the legislative needs of the Congress.” (*About CRS*). “In the first decade of the present century, legislators throughout the United States became increasingly aware of the growing complexity of legislation and of the importance of having at hand the fullest possible data regarding legislative proposals. In many States this awareness led to the formation of legislative reference bureaux, charged often with the dual function of seeking out and presenting the basic facts pertinent to any given legislative matter and of drafting appropriate Bills” (Galloway (1954) p. 261). In 1946 statutory recognition was given to the research function - the Legislative Reorganisation Act authorized the Librarian of Congress to make the service a separate department of the Library to (a) advise and assist any committee in the analysis, appraisal and evaluation of legislative proposals (b) provide “a basis for the proper determination of measures before the committee” (c) prepare summaries and digests. The Act provided for the appointment of senior specialists in broad legislative fields. (*ibid.* p. 262). “With the Legislative Reorganization Act of 1970, Congress renamed the agency the Congressional Research Service and significantly expanded its statutory obligations. The services provided today by CRS are a direct result of congressional directives and guidance.” (*About CRS*). In the UK the shift from classic library to full-blown scientific information/research service can be seen in the staffing figures for the House of Commons Library. In 1946 it had seven staff, just before the transformation began, and this increased to 35 in 1965, 55 in 1972, 126 in 1982 and around 200 in 1992–2000 (Rush (2001) pp. 129–130).
- Wu (2008), on the US Congress, notes that Jefferson’s offer to sell his book collection to supply Congress with a new library as a new source of knowledge and information (after the original was destroyed) was based on the Enlightenment ideal that people should be guided by reason and scientific knowledge (p. 357).
- To give one historical example, Mehennet reports the House of Commons library using data from the Australian and Canadian parliamentary libraries to show that their own staffing was inadequate (Mehennet (2000) p. 96). There have been similar cases even recently within the IFLA Section.
- In two further cases the delay exceeds two years; the UK is a special case; the precise chronology of the other ten is not clear from the sources used (*The World Directory of Parliamentary Libraries* and the *World Encyclopaedia of Parliaments and Legislatures*).
- Switzerland is a possible exception – see footnote 47. For Westminster pre-1945 “the concept of a parliamentary library as a dynamic institution having the supply of information as its prime function was taking a very long time to get itself accepted – by Members as well as by others” (Mehennet (2000) p. 65). “There was a certain amount of criticism in the inter-war years . . . mainly that [the Library] did not afford Members a satisfactory and active information-giving service. *Though there is no particular evidence that the majority of Members felt this way* [emphasis added], Sir George Benson . . . wrote, “as a back-bench member in 1930, I was appalled to find the House of Commons served by a Library which had hardly progressed since 1850.” (‘The House of Commons Library’ (2005) p. 5). “In 1945 there was a very large influx of new Members who, it became rapidly clear, required a more sophisticated information service than the Library could offer. Accordingly, a Select Committee was set up, and its Reports . . . remain the fullest investigation ever held into the Library. In many ways, the Committee’s recommendations still form the basis of the modern remit of the Department. “Your Committee feel that the Library of the House of Commons . . . should be made into a unique institution . . . far more than a repository of books

- and parliamentary papers.” In their first report, they had declared...”the essential purpose of the Library is to supply Members with information rapidly on any of the multifarious matters which come before the House, or to which their attentions are drawn by their parliamentary duties” *ibid.* p. 6. The chair of this Committee was the George Benson referred to in the previous paragraph, underlining the importance of individual reformers.
10. Mehennet (2000) reports that Ivor Jennings of the University of London was promoting ‘parliamentary reform’ and quotes from a document of Jennings from 1934 “at a time when the House was having to cope with an ever-expanding range of subjects, many of them highly complex and technical, no serious attempt was being made to supply Members of Parliament with up-to-date literature and current information” (p. 64). Jennings argued that the Parliament needed a modern library on relevant topics, a capacity to catalogue and index, and research capacity. (Members at this time lacked their own staff). Another critic of library facilities mentioned by Mehennet is H.G. Wells (in 1932) – Wells was an enthusiast for the new science of ‘documentation’. Later, “The ‘information explosion of the sixties brought unprecedented attention to bear on the needs of Parliament for sound, up-to-date information and for adequate research assistance; ... When one seeks to explain the undoubtedly rapid growth of the Library from 1965 onwards, one’s conclusion must be that pressure for improvements from Members, *combined with an increasingly articulate awareness of the importance of such information services among academic and other outside observers*, proved to be a very strong force indeed.” [emphasis added] (*ibid.* p. 90). Rush, with Barker, was one of those influential academic commentators, outlining criticism of Parliament and other institutions and offering better information provision as one solution (*ibid.* p. 85). Another prominent academic commentator was Bernard Crick whose ‘Reform of Parliament’, published in 1964, claimed that the House of Commons library was under-powered compared to provision in the USA. His work was linked to the set-up of the Study of Parliament Group in 1964. It is still running and seems to have been a key (and discreet) location for academic reformers to engage with parliamentary officials and for a reform agenda to be shaped. It was apparently behind reforms for 26 years from 1964 (*ibid.* p. 90). “Although its findings are published, the Group’s meetings are usually private” – Study of Parliament Group website <http://www.spg.org.uk> retrieved June 2009.
 11. A separate IFLA Section for parliamentary libraries was founded in 1966. Amongst the other professional forums: the Nordic parliamentary libraries have had formal cooperation since 1922; the Association of Parliamentary Librarians in Canada (APLIC/ABPAC) was founded in 1975; the European Centre for Parliamentary Research and Documentation (ECPRD) in 1977; the Association of Parliamentary Libraries of Australasia (APLA) in 1984 with informal cooperation dating to 1972.
 12. Black et al. (2007) p. 11.
 13. *ibid.* p. 16. The Library Association was “founded in 1877 as a result of the first international conference of librarians” http://en.wikipedia.org/wiki/Chartered_Institute_of_Library_and_Information_Professionals.
 14. Black et al. (2007) p. 25. The US association for specialist information libraries/librarians, the SLA, was established in 1909; the British organization for special libraries and information bureaux – ASLIB – was established in 1924 (*ibid.* p. 29).
 15. *ibid.* p. 150.
 16. *ibid.*
 17. Seaton (2007) p. 2. (In 1994 a project was launched to merge the then European Parliament Library with the research and internal documentation functions in a new service ‘EPiCentre’. When this project was aborted in 1997 the Library was renamed ‘Parliamentary Documentation Centre’ (Tomlins (1999) pp. 32–36). The title reverted to ‘Library’ c.2004 – the new name had confused potential clients.
 18. ‘Library’ can = ‘information service’ and in any case SPICe actually appears to have (on a small scale) the elements of a conventional library service – see Mansfield (2009). For the description of the conventional elements of a library, see especially pp. 21–22.
 19. Nicholas et al. (eds.) (2008) pp. 5–6.
 20. Marcella et al. (2007) p. 922.
 21. Wu (2008) p. 356.
 22. *ibid.* To justify his analysis Wu cites work by: Carol H. Weiss; David Whiteman; Anne Schneider and Helen Ingram; Allen Schick; Charles O. Jones; Robert H. Haveman; David R. Mayhew; E. C. Banfield; R. Douglas Arnold; David K. Cohen and Janet A. Weiss; and A. Frye.
 23. *ibid.* pp. 361–362.
 24. *ibid.* p. 356.
 25. Nicholas et al. (eds.) (2008) p. 4.
 26. E.g. “With the increase in the range of subjects, issues, interests and disciplines of interest to parliamentarians, there has been a parallel increase in the quantity of information available, until we have today a general awareness of the concept of “information overload” Marcella et al. (1999) p. 171.
 27. E.g. “The main constraint on members is time” Corbett et al. (2007) p. 57 and “an individual MEP is faced with tough choices... How much time should they spend in parliament and at home? Should they remain generalists or seek to become policy specialists? What activities should they concentrate on?” *ibid.* p. 58. Anecdotally, the information issue is more often presented in terms of ‘how do I easily get hold of the right information which I know is out there somewhere’ rather than in complaints about ‘too much information’. There is a possible parallel with the academic world. Nicholas et al., in a study of the use of specialist

- databases, ask a rhetorical question: “How does all this activity [searches of specialist databases] square with the concerns that dominated the [information] profession 20 years ago that the huge availability of data would result in overload? Well, in interviews we have conducted with academics in 2008, the term rarely came up and when the interviewer prompted the interviewee, they simply shrugged their shoulders. They are resigned to it; it is just part of the scenery or the academic assault course, and it is a small price to pay for the unbelievable level of access obtained” Nicholas et al. (eds.) (2008) p. 125.
28. Rush (2001) quotes an 1820s pamphlet on the UK parliament “Parliament is now overwhelmed with business... [acts, public petitions and]...There are piles upon piles of reports. From the Colonial Department alone, in 1825, were laid on the table papers amounting to 5,000 pages. The printed papers of a session, entirely exclusive of the bills printed, the votes of the two House, and Journals, exceed twenty-five full-sized and closely-printed folio volumes” p. 53.
 29. Marcella et al. (1999) p. 170.
 30. Marcella et al. (2007) p. 931.
 31. Wu (2008) p. 359.
 32. A psychologist and Director of the Max Planck Institute for Human Development. Gigerenzer offers an accessible overview of his work in: *Gut feelings – short cuts to better decision making*. London: Penguin, 2008.
 33. Gigerenzer and Selten (eds.) (2001) p. 4.
 34. *ibid.* p. 4.
 35. *ibid.* p. 5.
 36. *ibid.* p. 7.
 37. *ibid.*
 38. *ibid.*
 39. *ibid.* p. 8.
 40. *ibid.*
 41. *ibid.* p. 9.
 42. Marcella et al. (2007) p. 926.
 43. Searing (1994) p. 372. Note also Marcella et al. (1999): “Barker and Rush’s (1970) study of the information needs of the British MP, although dated, concludes that speed is the most significant aspect of information retrieval for MPs, and that less experienced MPs are more inclined to request additional information in the form of reports and policy analyses” (Marcella et al. 1999). Members with less environmental knowledge and accumulated experience have to scan a larger quantity of formal information to reach a conclusion?
 44. *ibid.* p. 357.
 45. Le Maux (2009) pp. 201–2.
 46. Tchantouridze (2007) p. 3.
 47. Some processes are just too complex to track at a reasonable cost. In as far as impact is made via decisions in individual minds involving multiple factors; or through general environmental knowledge influencing specific decisions; then can it be tracked at all? Is it a problem beyond current scientific solution? One scientific method would be to run an experiment depriving a parliament of a library. This experiment has already been run and it is available for historical study. In Switzerland the present form of parliamentary secretariat has “only been in existence since 1972. Previously, any services required by parliament were provided by the [executive]. The legislative committees were directly served by the relevant offices of the Federal Administration. In the 1960s, these structures were increasingly the target of criticism. The Mirage Affair... clearly showed that the existing structures had to be improved and that they were incompatible with the principle of the separation of powers.” [The Parliament relied on the executive for information and as a consequence was perceived as failing to hold it properly to account – see for background http://en.wikipedia.org/wiki/History_of_the_Swiss_Air_Force#Mirage_affair] As a consequence of the Mirage Affair, the first services were set up...: a Secretariat for the Auditing Committee and a Documentation Service... documentation tasks (the provision of information and knowledge independently of the administration) were central tasks of the Parliamentary Services from the start.” Frischknecht (2003) pp. 2–3.
 48. Carey, in Rhodes et al. (eds.) (2006) p. 442. That Committees are a major source of information for individual members is noted also by Searing (1994) p. 59.
 49. Searing (1994) pp. 32–33.
 50. *ibid.* p. 58.
 51. *ibid.* p. 58 and p. 59.
 52. Carey, in Rhodes et al. (eds.) (2006) p. 442.
 53. The affair is referred to in Corbett et al. (2007) p. 288. A research unit of the Parliament (STOA – Scientific and Technical Options Assessment) contracted a study that included reference to this telecommunications surveillance system. According to a more detailed account by the author of the research report “The section dealing with ECHELON in the STOA report only ran to a few pages” and when it went to Committee in December 1997 “it would have been largely ignored had it not been for a Daily Telegraph article... which alerted the international media.” (Wright (2005) p. 213). Wright notes that “Nothing in the STOA report was new but its packaging in a formal report for the European Parliament led to a ‘tipping point’. Interest in ECHELON mushroomed and all the European Member States had parliamentary debates about it”. This in turn led to the commissioning of further STOA research and the set-up of a temporary European Parliament Committee “which created some of the best [and] most informed organized knowledge on the existence of ECHELON, its activities and limitations. Almost every serious newspaper in the world has now covered ECHELON. Why? Because one package of organized knowledge, put together in a serious format was able to catalyse subsequent interest.” (Wright (2005) p. 213).
 54. Marcella et al. (2007) p. 927.

55. <http://archive.ifla.org/VII/s3/conf/ipu-asgp-ifla-seminar-watt.pdf>
56. A diagram of a 'typical' office is found here: http://www.sourcewatch.org/index.php?title=Congressional_Offices_and_Staff. For an actual example, see <http://burgess.house.gov/Contact/Staff.htm>.
57. Orton et al. (1999) p. 209.
58. Hamel and Prahalad (1994).
59. *ibid.* p. 223.
60. *ibid.* p. 236.
61. *ibid.* pp. 224–228.

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International Federation of
Library Associations and Institutions
36(1) 61–69
© The Author(s) 2010
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209360764
ifla.sagepub.com



Not just another portal, not just another digital library: A portrait of Europeana as an application program interface

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Abstract

To the general public, Europeana is primarily perceived as a portal exposing a great amount of cultural heritage information. Even though this perception is not entirely misleading, the main goal of Europeana is rather to build an open services platform enabling users and cultural institutions to access and manage a large collection of surrogate objects representing digital and digitized content via an application program interface (API). The paper covers some details of the overall data space schema, of the API description and of the Europeana Portal implementation; it also discusses use cases and the mental approach that users, in particular cultural institutions, should adopt to completely exploit the potential of the Europeana services platform together with a discussion of related risks. The authors represent key players in the Europeana specification, development and implementation process currently under way.

Keywords

Europeana, application program interfaces, cultural heritage information, open services platforms, web portals, semantic web

What is Europeana?

To the general public, Europeana (<http://www.europeana.eu>) is primarily perceived as a portal exposing increasingly impressive amounts of cultural heritage from various sources to Europe's citizens. Even though this perception of course is not entirely misleading (and even conforms to most of the European Commission's communication about Europeana) it does not capture the essential characteristics of what we try to build in Europeana. On a very abstract level, Europeana can be seen as a large collection of surrogate objects representing born digital or digitized cultural heritage objects which themselves remain outside the Europeana data space (they need to be

accessed by Europeana once, however, for processing with the aim of producing the surrogate representations). In this abstract vision, the surrogates are linked to each other and additionally are contextualized with links to nodes of a semantic network that forms the second data layer in Europeana. These two links

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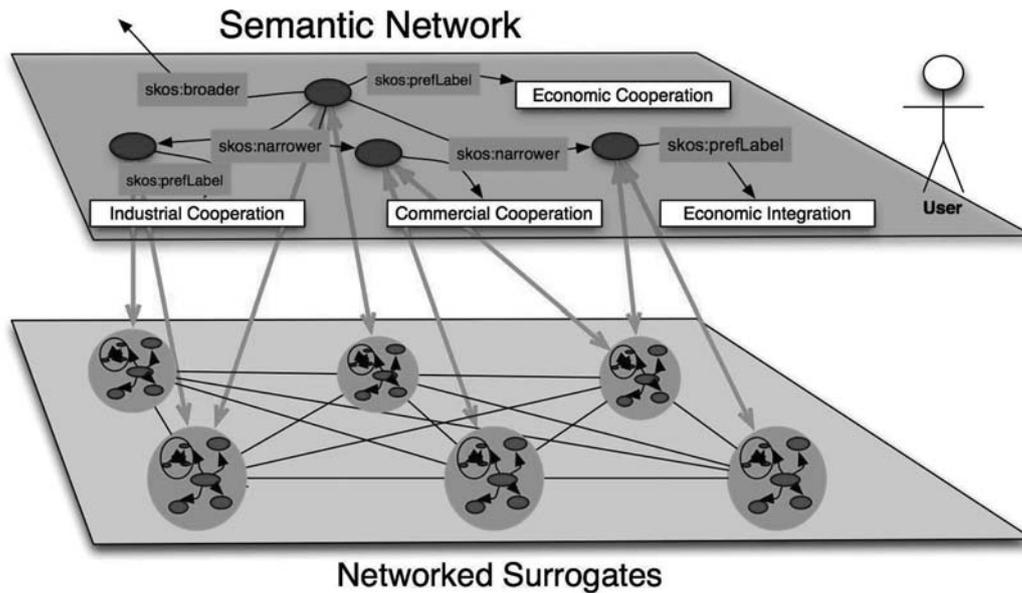


Figure 1. Semantic network and networked surrogates.

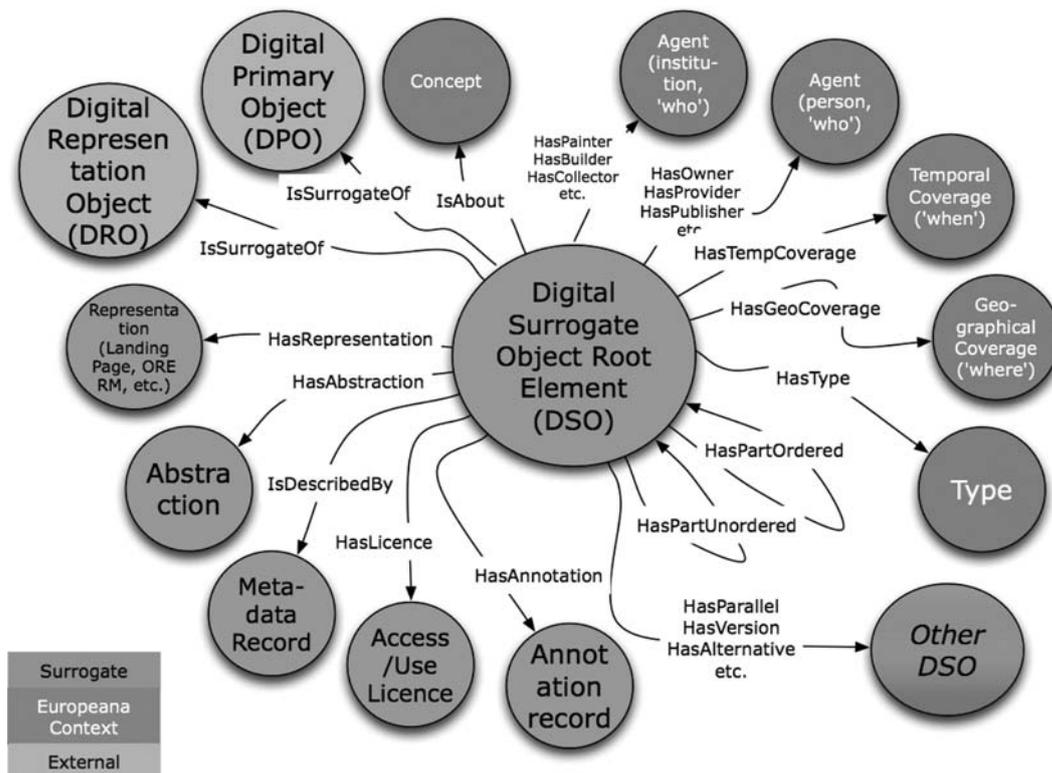


Figure 2. Digital surrogate object.

together are used to create rich functionality that is offered on the user interface. This view is illustrated in Figure 1.

Furthermore, as illustrated in Figure 2, these surrogates can have a relatively complex internal structure: the circles in light grey [blue in the online

edition – *Ed.*] show constituents of a Digital Surrogate Object (DSO) such as related metadata, licensing information, abstractions (such as tables of contents or color histograms), annotations and representations of the surrogate such as a landing page or ORE resource maps. Furthermore, DSOs may contain other

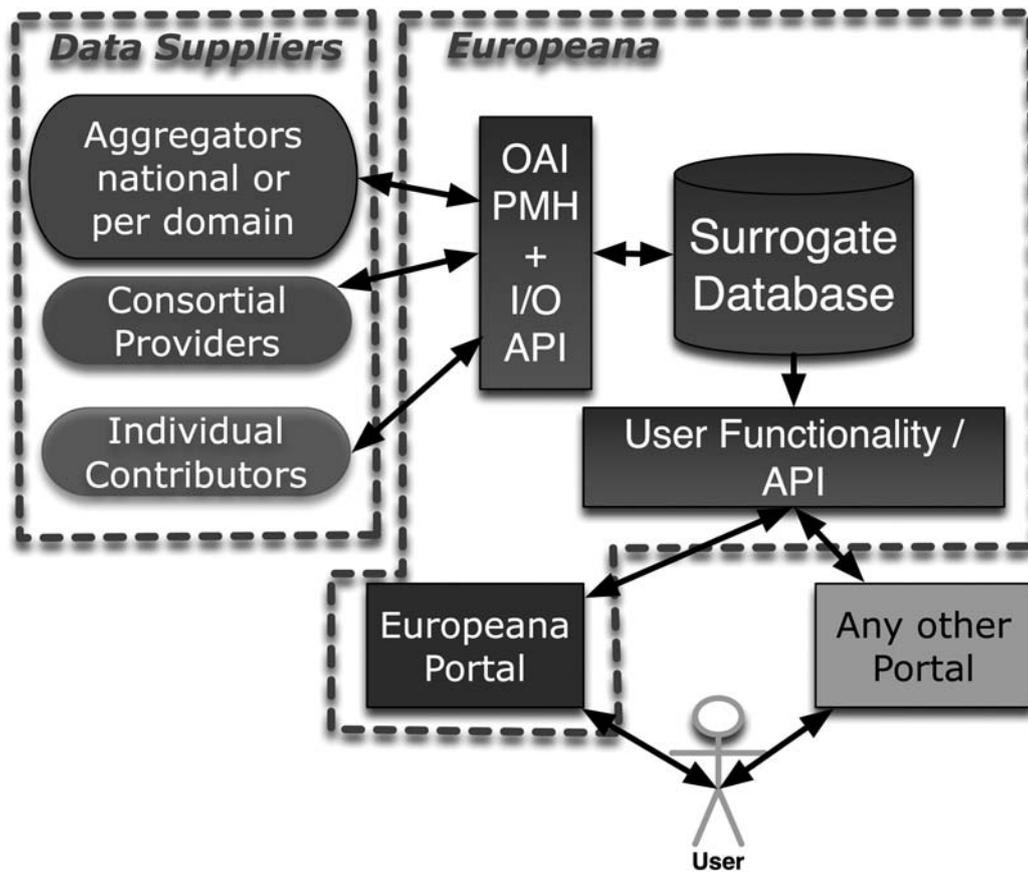


Figure 3. Europeana big picture.

DSOs as parts as in the case of a scanned book with individual surrogates for each page. On the other hand, DSOs have contextual links to other DSOs as well as to concept nodes (the circles in dark grey [purple in the online edition – *Ed.*]) such as those representing time and space entities or abstract concepts.

Both the internal structure of the surrogates and their contextualization build upon the elements provided by the content suppliers, but substantial parts of this structure and context will be created in the course of the Europeana data ingestion routines.

Therefore – and as indicated in Figure 3 – Europeana will not only have an API for end user functionality as further detailed below, but also an I/O-API enabling data flow from and to the content providers – the latter creates the option of re-integrating enriched content in the remote applications of the data providers.

The heart of the Europeana project thus is an endeavour to build an open platform fostering functional, technical and data interoperability.

What is an API?

According to the DELOS DL Manifesto (Candela et al., 2007) we can conceive the Europeana software

as a Digital Library System (DLS) which is defined as: “a software system that is based on a defined (possibly distributed) architecture and provides all functionality required by a particular Digital Library”. Designing a DLS is a complex task, it requires integrating knowledge and methodologies from various disciplines, such as content management, metadata management, information retrieval, distributed database management and human computer interaction, to mention the most relevant (Gonçalves et al., 2004). Implementing a DLS then means building sophisticated and extensible software that integrates techniques and technologies from the above-mentioned disciplines into a coherent system. The core of such a software system is called the Digital Library Management System (DLMS) (Smith et al., 2003). In general, a DLMS is a software system implementing the business logic and the data access functionalities for creating, operating and managing DLSs; examples of DLMS are DSpace (Smith et al., 2003) and BRICKS (Aloia, Concordia and Meghini, 2007). For the Europeana 1.0 project we decided to build a DLMS by (a) customizing components taken from off-the-shelf solutions, and (b) developing from scratch those software components that offer

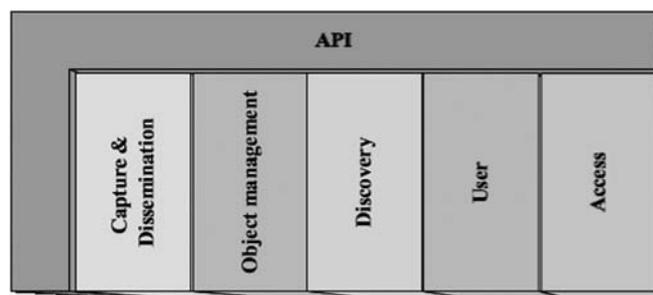


Figure 4. API and DLMS functionality.

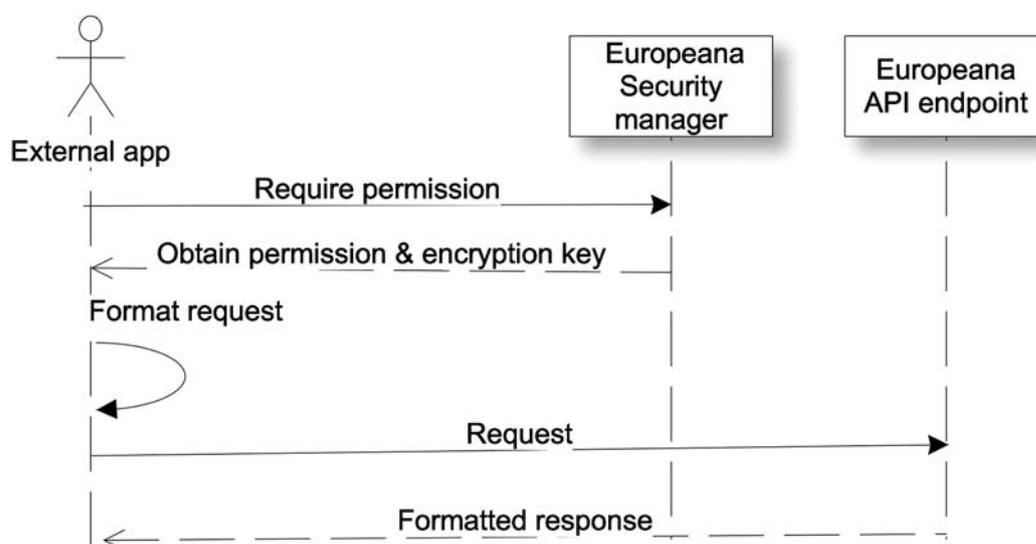


Figure 5. External application interacting with the API.

sophisticated functionalities of the Europeana Digital Library not exhibited by existing solutions.

The functionalities offered by the Europeana 1.0 DLMS can be grouped into five areas:

1. Capture and Dissemination area, offering functionalities for populating Europeana and disseminating its contents.
2. Object Management area, providing functionalities to manage digital content objects, the corresponding surrogates and the associated metadata.
3. Discovery area, supporting the indexing and searching of the Europeana content according to several paradigms.
4. User area, supporting the functionality for managing users, from single persons to institutions, all possibly grouped in dynamic communities.
5. Access area, supporting access to both Europeana services and content as well as to external resources.

Each functional area is implemented by a set of software components. One of the main goals is to make the Europeana DLMS an extensible system: it should be possible to easily add new components offering more sophisticated functionalities or replace existing components when necessary. In order to achieve this form of extensibility, every component in the Europeana architecture is accessible through an Application Program Interface (API) that exposes all the public methods of the component; interactions among components will occur only through their APIs. A subset of the API methods of DLMS components will be published and made available to external applications; these methods will form what we call the Europeana API.

The goal is to enable third party developers to build applications using the functionalities of the Europeana DLMS, and in some cases to extend those functionalities.

To hide the complexity of the underlying system, the Europeana API will be published as a set of callable methods, API endpoints and *calling conventions*. A developer who wants to build an application that uses an exposed Europeana DLMS functionality could write a routine performing three tasks (see section on Use Cases for an example):

1. select a calling convention and according to it format a request specifying a method and its arguments
2. send the request to a specific endpoint
3. receive the relative response.

The calling conventions adopted in Europeana will be initially mapped to three standard techniques for exchanging structured information: Representational State Transfer (REST) (Fielding 2000); XML Remote Procedure Call (XML-RPC (<http://www.xmlrpc.com/>); and Simple Object Access Protocol (SOAP) (<http://www.w3.org/TR/soap/>). REST is an HTTP GET or POST action; the method name and parameters are passed as values of defined keywords; in XML-RPC the request is formatted in XML according to a defined schema and posted to a URL; SOAP requests are ‘envelopes’ of formatted XML data posted to a URL.

One important characteristic of these formats is that they can be used to build distributed applications; this means that a third party developer can build an application running on its own server and use a communication infrastructure (for instance the Web) to interact with the Europeana DLMS.

The response data format depends on the called method and the convention used; typically it would be an XML file. However, for certain methods Europeana DLMS will also provide the standard data interchange-format JavaScript Object Notation (JSON) (<http://json.org/>), to help for instance the work of developers writing Graphic User Interfaces based on asynchronous JavaScript and XML (AJAX). Another important data format supported is Protocol for Metadata Harvesting defined by the Open Archive Initiative (OAI-PMH) that can be used by external applications to harvest Europeana content. The response data format can be specified as a request parameter.

Note that almost all programming languages support the above-mentioned protocols and techniques and there are several frameworks providing a compatible API; the Europeana DLMS then can easily be extended.

Publishing the Europeana API means that the Europeana DLMS will embed a security framework

providing the functionalities of authentication/authorization of API invocations and data encryption/decryption when information should be kept private.

Use cases for Europeana

Use case: external Moodle application

A Europeana external application is an application that uses at least a Europeana service via the Europeana API. In this paragraph a simple use case is shortly described: how to build a plug-in for the Moodle Course Management System (<http://moodle.org/>) using the Europeana Advanced Search API.

The Moodle software architecture is component based, a number of its main features are implemented by separate components called modules, including themes, activities, interface languages, database schemas and course formats; moreover the system provides an API to enable developers to build new modules. If a teacher wants to add a particular functionality to a course she/he can build a module and add it to the Moodle server according to the specifications. Once the module is correctly installed it can be loaded as a widget in the course Graphic User Interface (GUI) and its functionalities will be available to the course users.

The sequence diagram in Figure 6 shows how a module (in particular an *activity* module) that uses the Europeana API to discover objects stored in the digital library could interact with the API endpoint.

To use the Europeana API a Moodle developer should essentially implement the following tasks:

1. Query formatting. As noted in the previous paragraph, every API endpoint can support one or more calling conventions. The developer will know from the API documentation which are supported by the Europeana Discovery manager and must format the query according one of them.
2. Query encoding. It may be the case that a developer wants to build a module searching also for information which is not in the public domain. To implement this kind of search, an encryption/decryption key and/or an identification token are needed; keys and identifiers must be obtained in advance by the developer and used to encode queries sent to API endpoints.
3. Result set parsing. As it is for the calling convention, also the result format of a method invocation will be documented. In the current prototype implementation the result set of an advanced search is formatted as a JSON file.

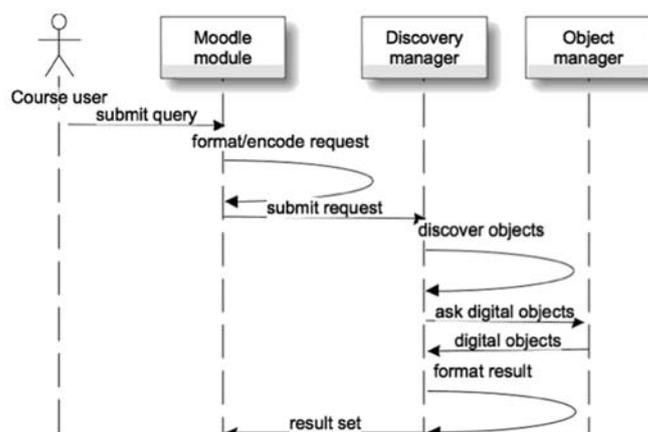


Figure 6. Using the API for connecting Moodle to Europeana.

The Europeana API will provide methods and tools to help developers in building their applications.

Humanities computing

Europeana will contain a wealth of cultural artifacts from all domains of cultural heritage and thus will have an increasing potential for all culturally related scholarship, mainly in the humanities. Our second use case therefore is taken from the humanities, and more specifically from the field of philology. Imagine a scholar working on medieval manuscripts. The manuscript she is working on is represented as a complex surrogate in Europeana with low quality reproductions of the scanned pages as part of the abstractions as well as a representation of the watermarks found in the manuscript. In the metadata part of the surrogate the researcher notices that it is dated 1480 and is supposed to be written in Strasbourg. The watermark found in the manuscript is an anchor – and fortunately one of the contextual resources of Europeana is the ‘Wasserzeichen des Mittelalters’ (WZMA) database of medieval watermarks at the Austrian Academy of Sciences. In that database our researcher spots two instances of exactly the anchor watermark in her manuscript in two other manuscripts, both supposed to be written in Strasbourg – but both of them dated 1446.

From this combination of information available through Europeana and its context, our researcher concludes that something must be wrong with the dating of the manuscript, as she knows that a given watermark typically was in use only for a few years and definitely not for 34 years. She thus creates an annotation embedding the link to the WZMA resource and making a statement about the supposed incorrectness of the dating.

This probably is when she has touched at the limits of what she can do with Europeana: she has sufficient inferencing elements at her disposal to raise doubts about the correctness of the dating, but in order to establish a new, correct dating she probably needs to go to a site with high quality digitization data or eventually may even have to travel to Vienna where the manuscript can be found at the Austrian National Library.

Europeana portal as a reference implementation

The prototype of the Europeana portal was launched in November 2008, (see <http://www.europeana.eu>). Its main purpose was to showcase the possibilities of cross-cultural domain interoperability on a pan-European level. Metadata from archives, libraries, museums and audiovisual archives became available through a single interface. The main functionalities offered by the prototype portal were:

- **Inform** the users of the Europeana initiative
- **Browse** through results via a timeline, via search terms provided by other users, and via frequently viewed item shown in the carousel on the home page
- And, finally, **search** via simple and advanced search.

From its inception the portal was designed to be a thin client around the search API. Many of the advanced features described in ‘What is Europeana’ will only become available in the next major releases planned in mid 2010 and 2011.

So what will be the role of the Europeana portal in the future? Most likely its role will be that of a reference implementation of the Europeana API. New

features of the API will first become visible in the Europeana Portal.

Some of the main challenges for the portal/API interaction are tackling multilinguality and finding innovative ways of presenting tremendously large result sets (this is also referred to as info-graphics). Some of the new features which are currently under discussion are geo-temporal presentation, and, contextual grouping of result sets. A query for any location or date will have many thousands of relevant results, however narrow you set your scope. If you search for ‘Paris’ all dates currently shown in the facets are in excess of 1,000 relevant results. If you select ‘1888’ in the timeline of the portal you will have almost 50,000 results to filter through.

Making all information multilingually available will initially only lead to a combinatorial explosion of relevant results. Obviously, if you are searching for ‘painting river’ in English and the query is expanded with the translations of ‘painting river’ in 27 European languages, your result set will dramatically increase. Here is where contextual groupings become important. The user needs to be able to filter a meaningful and manageable result-set out of hundreds of thousands results. Here it is important to note that Europeana suffers from having so much high-quality curated metadata. Any hit for a phrase ‘painting river’ in Europeana is most likely a very relevant hit to your query. So developing tools for contextual groupings and graphical representations to help users make sense of their search results is of key importance.

Mentality shift: Towards the cultural commons

The approach we are propagating here is based on a strong assumption: we suppose that instead of trying to sustain the digital information silos of the past, cultural heritage communities are ready for an information paradigm of linked data and thus for sharing as much semantic context as possible. Only in such a mental setting does the shift from the portal paradigm to the vision of an API as Europeana’s primary incarnation truly make sense.

This mentality shift is a big leap, since it requires cultural heritage institutions to think, not primarily within the boundaries of their particular collections, but in terms of what these collections might add to a bigger, complex and distributed information continuum coupled with various contextual resources enabling European users to turn partial aggregations of this continuum into knowledge that is relevant in their specific context.

The idea thus is not to pre-aggregate information in fixed structures for basically static reuse, but to make it available together with functional primitives for usage scenarios not exclusively defined by Europeana: eScholarship collaboratories, digital libraries of all sorts, the Europeana portal itself ... the basic idea being that all of these use Europeana as some kind of digital cultural commons addressing the API that exposes Europeana data and functionality in a generic manner.

As part of this mentality shift, cultural heritage institutions will also need to increasingly feel part of a larger community sharing a set of generic standards for organizing information and making it available: the standards referred to here will mostly be created by external instances such as the W3C rather than by the cultural heritage communities themselves.

Value proposition

The Europeana API brings value to both stakeholders and users alike, but in different ways. The Europeana service needs to keep the fine balance between meeting user needs and satisfying stakeholders’ demands. The following paragraphs contain a selection of added value aspects of the Europeana API.

Increased visibility and coherent branding. Europeana is a high-profile information access point that offers a unique cross-section across digitized European cultural heritage. Content that is part of Europeana will therefore be inherently more visible than just exclusively via the content providers’ websites. In addition, the Europeana API will offer a coherent branding strategy for Europeana, national, or domain aggregators and content-providers. This branding strategy will increase the visibility of the content and content-provider alike.

Efficient data-mining and re-use of enriched data. Extracting use-full information from metadata and other indexable data is very computationally intensive and therefore often too expensive for individual institutions. The Europeana infrastructure uses state-of-the-art data-mining and data-enrichment techniques to identify persons, places, events and concepts and align them with existing controlled vocabularies. This extra information is available via the API for re-use into the content-provider’s infrastructure.

Multilingual support. One of the biggest obstacles for creating pan-European access to cultural heritage objects is cross-lingual information retrieval. In future releases, the Europeana API will provide

cross-lingual services such as query translation and expansion, metadata translation, language dependent spellings of named entities like person names and place names.

Persistent resolvability. Because Europeana aims to make each ingested object into a persistent resolvable URI, individual items can be included into well-known web services such as Wikipedia, Google Scholar, Facebook, etc. Even though the content providers' identifier might change, the Europeana ingestion mechanism will keep track of the correct object. Having a persistent resolvable URI is one of the pre-requisites for making the Europeana surrogates work in semantic web contexts, like linked-data (<http://linkeddata.org/>) for example.

Reuse of services. The web services offered by the Europeana API can be used to enhance the functionality of institutional web interfaces. For example, information on how to group your own result sets, based on persons, place, concepts, etc. Also the enriched geospatial and temporal information provided by Europeana might be used to provide custom timeline and map applications.

Risk analysis

In some respects the needs of users and stakeholders can be orthogonal and these differences can be considered risks to the success of the Europeana API. These risks can be subdivided into two categories: 1) risks which mitigate the value propositions and, 2) risks which lead to unwanted uses of the data outside the original scope of the stakeholders.

Risks mitigating the value propositions

The biggest risk to the Europeana API approach is the failure of adoption and lack of community buy-in. For an API to be of any use at all people need to start using it. Luckily for Europeana, there will always be at least one user, namely the Europeana portal reference implementation. When new API features will be rolled out, they can be viewed in the portal's thoughtlab section.

The success of the API will also depend on how freely available it will be. Initially, the API will be available to Europeana partners only. Access to the API will most likely be moderated by the need for a 'wskey' to use the web service. Many of the web services might be completely freely accessible from the Rhine release (July 2010) onwards. However, the

availability of some of the surrogate elements may still be subject to agreements with content providers.

The magnitude of adoption by Europeana partners will largely depend on how relevant the Europeana API will be for them. The most relevant part of the API for partners will be the re-use of enriched data. Thus, in order to stimulate adoption and provide added value to being an API consumer, Europeana needs to provide extensive documentation and tooling support.

Finally, intellectual property rights (IPR) are always a point of contention when any type of content is made available on the Internet. A comprehensive approach to this problem is currently under construction in the wider Europeana network. In order to become truly a part of people's workflow for information gathering, Europeana needs to move beyond largely giving access only to metadata about objects. Users want to have some kind of interactive multimedia experience with the objects of interest. For this to be possible within Europeana, the IPR issues need to be resolved.

Risks leading to unwanted data uses

One notable difference between the Europeana Portal and consumers of the Europeana API is that the Europeana Portal is focused on enabling discovery based on stakeholder interests. This might not be the case for other users of the Europeana API. For example, applications making use of the Europeana API can group data in ways that might be considered offensive to our stakeholders. A grouping of artifacts linked to 'genocide' through time is an absolutely valid academic endeavor, but might be politically very undesirable.

Mashups, too, might lead to uses which are unexpected and may be unwanted. For example, information consumed from the Europeana API may become a subordinate part of the mashup instead of being its central component. So the question is how much mashup of information do the Europeana stakeholders want or want to allow?

In addition, the amount of branding that the Europeana data sets will contain needs to be carefully weighted. It is primarily a question of how much do we need and how much do we want to enforce. It is of unquestionable importance that origin and ownership need to be clearly visible, whenever the Europeana API is used. This applies both to Europeana and content providers' branding of the data sets. The most likely scenario will be that all responses from the API contain information about the ownership of the content, but leave the decision

on how this is displayed to the API consumer as a recommendation.

Conclusion

As already indicated in the title of this contribution, Europeana thus is much more than a Digital Library: it is a DLS in the sense defined by DELOS, and at same time based on a DLMS as developed in the Europeana V1.0 and EuropeanaConnect projects and which may in turn be used to generate different varieties of Digital Library Systems. The API referred to in this contribution is partly a generic API of the DLMS and partly (foremost as far as surrogates are concerned) an API of the Europeana DLS. DLMS API functions in this sense will be completely open, whereas DLS API functions may be subject to specific access conditions as mentioned above.

Europeana also is much more than a repository – and at same time much less than that: Europeana will not contain original digital objects (which will continue to be accessible at sites controlled by the rights owners exclusively). However, by creating rich surrogates as representations of these objects (including a pointer to the original) and by creating rich semantic context for these, Europeana will create an added value that can be transferred back to the content providers using the API: data flows between content providers; Europeana should be seen as bidirectional.

Finally, Europeana is much more than a portal: even though offering portal functionality; its main technical incarnation is the Application Programming Interface (API) on which the portal services will be built.

Europeana thus offers cultural heritage institutions a migration path from their current collection silos into a layered, web service-based information architecture and is conceived as an environment facilitating – and requiring – the mentality shift cultural heritage institutions will have to operate in the future, anyway.

In this sense – and being fully aware of the risks associated with our approach – we feel that the API-based model for Europeana as it is still in the course of specification will have been a definite success once major web search engines start to use our API to display European cultural heritage within their retrieval sets together with the Europeana branding of the surrogates: this contribution, among

other aims, is intended as an invitation for cooperation in this sense.

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Bridging between libraries and information and communication technologies for development

International Federation of
Library Associations and Institutions
36(1) 70–73
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209360394
ifla.sagepub.com



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Abstract

The International Federation of Library Associations and Institutions (IFLA), the Bill & Melinda Gates Foundation (Global Libraries initiative), and the Technology & Social Change Group (TASCHA), at the University of Washington Information School, believe that the library and ICTD fields are at a point in their evolutions where each may be able to provide significant value to the other. They have organized a series of ‘bridging’ convenings to bring together interested stakeholders in both fields to advance activities that will realize tangible benefits for the two communities. Libraries and ICTD share an interest in the use of technology to achieve their ultimate goals. While their contexts come from very different histories and intentions, there are many areas of commonality that are worth exploring as possible collaborative efforts. A two-level view of the fields is proposed, starting with the overall characteristics that determine the character of each field as a necessary context for thinking about possible intersections, and ending with a proposal for exploration of potential areas for joint work at a more practical level. Possible projects in the areas of user services, training and technology are suggestions for further investigation.

Keywords

libraries, information and communication technologies for development, ICTD

Introduction

Rebecca Sears

In the current information age, public libraries seeking to meet the information needs of their clients are increasingly looking to modern electronic technologies – including computing devices, mobile phones, and the Internet – to meet those needs. These technologies are known by some as information and communication technologies (ICTs), and when combined with efforts to apply ICTs towards global development challenges, is a field of study known as ICTD.

Public library and ICTD communities would seem to have much in common. Why is it, then, that word search for ‘libraries’ in the preeminent ICTD academic journal, *ICTD*, produces zero results? Why is it, then, that when the term ICTD is used at a public library conference, what is understood is ‘IT vendor’?

Three papers – one found in this edition of IFLA Journal by Mike Crandall, and two in the next edition of IFLA Journal by Fay Austin and Chris Coward – propose that the public library and ICTD

communities have much to offer one another that is currently not being realized. The ICTD community has rarely considered public libraries as a vehicle for information access, and similarly the public library community has rarely looked to the ICTD community for insights and solutions.

The International Federation of Library Associations and Institutions (IFLA), the Bill & Melinda Gates Foundation (Global Libraries initiative), and the Technology & Social Change Group (TASCHA), at the University of Washington Information School, believe that the library and ICTD fields are at a point in their evolutions where each may be able to provide significant value to the other. They have organized a series of “bridging” convenings as a method for bringing together interested stakeholders in the library

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and ICTD fields in order to advance activities that will realize tangible benefits for these two communities.

The first convening took place April 19th in Doha, Qatar, during ICTD2009; and the second convening took place August 24th in Milan, Italy, during the World Library and Information Congress: 75th IFLA General Conference and Assembly. The three papers that you will find in IFLA Journal were part of the bridging conversations that took place in person in Doha and Milan; now they are being shared with a broader audience in an effort to create greater awareness of ICTD within the library community.

The participants involved in the meeting at the IFLA Congress in Milan concluded that the most positive approach going into 2010 is to continue to do small things and use those to build the big story of why both communities need each other. One example is the recent “European Congress on E-Inclusion: Technology and Beyond in Public Libraries,” held October 22–23 in Brussels. The planning and execution for this involved some of the Milan meeting participants (The Global Libraries Initiative, Telecentre.Europe, and TASCHA) and provided a meaningful mechanism to continue the conversations. Another concrete action is Electronic Information for Libraries’ (eIFL) announcement of the Public Library Innovation Program, which fosters the development of innovative services to improve people’s lives through the use of technology. eIFL is encouraging submissions from organizations to partner with libraries in developing innovative services. TASCHA and the Association of Progressive Communications (APC), another organization involved in the Milan meeting, are circulating this contest to ICTD communities.

Future efforts will include highlighting instances where library and ICTD bridging is already successfully occurring; widening the circle of participants working to bridge these two communities, for the benefit of practitioners and patrons of library *and* ICTD programs; and identifying opportunities for targeted activities going forward. During 2010 IFLA will develop an online platform to support the bridging activities and provide a space for both communities to learn from each other and work together. For more information or to find out how you can become involved, contact Stuart Hamilton: stuart.hamilton@ifla.org

Setting the context

Michael Crandall

Figure 1 sketches out the intersection of two layers of possible interaction between the ICTD community and the library community related to the use of ICT.

While there are certainly unique aspects of both communities, we think that there are some intriguing possibilities for sharing practice and learning between the two, and it may help to separate these two layers in thinking about this.

The first layer consists of the larger practice and body of knowledge defined by the community itself. Each community has a set of core principles, a history, key stakeholders, a political stance, a technical infrastructure and other associated characteristics that give the community its roots and are manifested in the approach taken to the use of ICT in support of that context.

The second layer is the more direct expression of these values and practices within the institutions that actually do the work on the ground – the public libraries and ICTD interventions that serve the users that are their focus. This second layer may be a good starting point for considering how to think about intersections, since it seems to be a common value in both domains that serving the needs of users is a primary concern. Practices at this second level may vary widely, and often reflect local needs and conditions more than the broader underlying characteristics of the foundational first layer, but the two are inextricable and influence each other in many ways.

The first layer

The broader context of both public libraries and ICTD interventions is defined by a host of variables, all of which are important ingredients in understanding the use of ICT in the field. A few of these dimensions are called out in the table below. These dimensions (and undoubtedly many others that will be added as this topic is explored further) are important elements that must be taken into account when thinking about possible interactions between the two fields. It may be very difficult to find common ground between the two communities at this broader level, but an awareness of these underlying characteristics may help to provide context for possible collaborations at the level of specific interventions with users (either through a public library, a cybercafé, a telecentre, or some other non-place based ICT solution).

In spite of the wide divergence in many of these areas, there could be some possible areas worth exploring for interaction between the two communities. For instance, the international standards used for managing library resources have been both a blessing and a curse, but are now being used in interesting ways in open collaborative information exchange systems.¹ It might be worth exploring how these efforts could be exploited to support some of the content of critical importance in the ICTD field as part of a

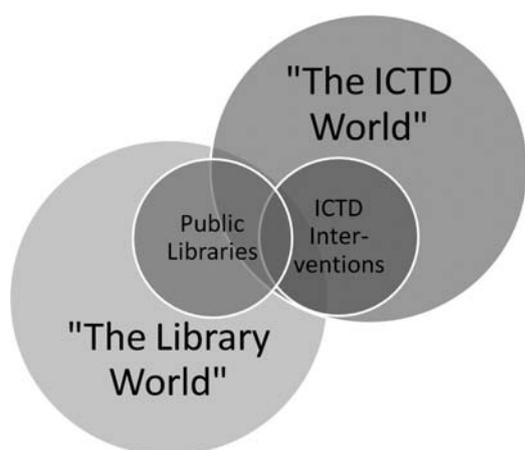


Figure 1. Intersections between libraries and ICTD

broader infrastructure effort. Similarly, it is conceivable that some funding partnerships might be used to enhance library services through working jointly with a regionally funded ICTD effort.

There may also be some lessons to be learned in the ICTD environment from the political landscape of the library world in terms of sustainability and integration with multi-layer governmental institutions. Given the deep division between the development and ICT partners in the ICTD setting², a convening to discuss models and approaches in this area might be of some interest to both communities, and provide a way to evoke best practices and possibly better understanding of commonalities in agendas and approaches.

The second layer

At the point of service to users, the underlying infrastructure is often overshadowed by individual differences in the venues and interventions that provide services to the users in the community. It is important to remember that the larger context is still there, since it will influence the success or failure (and the long-term sustainability) of particular interventions, but a number of potential crossovers between public libraries and ICTD interventions seem fruitful for exploration in a more localized environment.

Three areas of possible intersection are discussed briefly below. These are only a starting point, but may provide a basis for further exploration and more detailed proposals, both within these three areas and beyond them.

User services

Libraries and non-library ICT interventions are both in the service delivery business. Although the missions might be different, to a user they look much the

same – an individual is usually trying to get their questions answered and their needs satisfied. There are probably a number of ways that this area could be explored:

- a) Through some basic desk research comparing documented practices in each field.
- b) By bringing practitioners together for a focused discussion of service practices and methods.
- c) By doing outright experiments, taking service models from one domain and applying them in the other to see which work and which don't, and why – this could be done by integrating a public library into an ICT intervention or vice versa, or just taking a service model and moving it into the other environment, and measuring the change in user satisfaction and behavior.

Training

While this is really a specific case within the larger category of user services, it is a large enough area to be called out on its own. Both ICTD interventions and public libraries invest large amounts in training programs, both for their staff and their users. Either of these two categories would be interesting to explore to see if there are methods and practices that might transfer from public libraries to ICTD interventions and vice versa. The same set of approaches suggested in User Services would be applicable here as well.

Technology

This may be an area where ICTD interventions could offer more to public libraries than vice versa. As discussed earlier, ICTD interventions tend to be stand-alone projects without a standards-based infrastructure behind them, unlike public libraries. This independence allows them more freedom in the types of technology they can use and in how they use it. It would be interesting to examine some of the various methods being used in ICTD interventions today, and see which could be potentially transferred into a library setting as adjuncts to the traditional library technology offerings.

Further explorations

This short article is intended to provide background for further exploration of ideas that might contribute to the bridging of the ICTD and library fields in practice. In the next issue of the IFLA Journal, two practitioners/researchers in the ICTD and library fields will provide more in-depth discussion on this topic from

Table 1. Background dimensions of libraries and ICTD.

Dimension	Libraries	ICTD
Political context	Public good, funded by government	Private/public partnerships, complex mix of agendas
Technical infrastructure	Monolithic system vendors provide backbone technology, slow changes	Local technology solutions, rapidly changing
Staff and personnel	Often have formal training in service delivery, supported through library community	Locally recruited, often without institutional support or formal training
International standards	Both technical and social standards, unique to community	Few common standards, driven more by technical solutions than standards
Institutional characteristics	Multiple library types (academic, public, school, special), bound through common standards but serving different populations; strong resource sharing in place	Independent projects, of many different sizes, often funded separately, with little direct resource sharing
Historical setting	Long history, primarily found in developed countries	Relatively new, arose from development but fostered by technology entrepreneurship
Economic drivers	Supported by taxes at all levels of government, long-term investment	Mix, but often grant-funded (private or public) and short-term investment

their own perspectives. Chris Coward from the Technology and Social Change Group at the University of Washington Information School will explore projects from the ICTD world in more depth, and Fay Austin from the Rutgers University Libraries will examine how the library community is thinking about technology. As mentioned in the introduction, a continuing discussion of this topic will be hosted by IFLA during the coming year, with additional explorations in both face to face and online meeting spaces. There appear to be exciting opportunities for collaboration and learning between the two communities, and we hope that others will become involved and contribute their ideas as well.

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The Digital Library Futures Conference and the future of digital libraries within IFLA

International Federation of
Library Associations and Institutions
36(1) 74–81
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359986
ifla.sagepub.com



Ingeborg Verheul
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Introduction

In the slipstream of the IFLA World Library and Information Congress in Milan, the IFLA Professional Committee organized a special one day conference on digital libraries. This conference, entitled *Digital Library Futures: User Perspective and Institutional Strategies*, took place on Tuesday 25th August, and was held in the University of Milan. It was co-organized and generously sponsored by the Italian Government through the Athena Project. Because of the rather unusual context in which this event came into being, participation was limited to invited guests only. But IFLA would not have been IFLA if the outcomes of the conference didn't have a follow up in the general Milan congress programme, to share the outcomes with as many interested IFLA colleagues as possible. This was effectuated at the Plenary Session of Wednesday the 26th August. This contribution provides a report on the history, the outcomes and the follow up of this specific event.

Why another conference on digital libraries?

Increasingly researchers, and the general public, expect everything to be available on the web immediately, permanently and preferably free of charge at the point of use. At a cross-cultural level libraries, museums and archives work together to a growing extent, to make their digital collections and objects available on the web for a large audience, very often through one central access point, a so-called portal or digital library.

Current examples of international (global) digital library initiatives are the World Digital Library project¹ and the National Libraries Global project.² The World Digital Library project – coordinated by the

Library of Congress and sponsored by UNESCO – makes digital resources from all over the world available from one access point. Under the umbrella of CDNL, the Conference of Directors of National Libraries, the National Library of New Zealand recently developed a prototype for the National Libraries Global project, which serves the same purpose, but focuses on national library collections. On a European level, Europeana, of which the prototype was launched in 2009 – is the project to look at.³

With the current shift of many libraries from analogue to digital it is obvious that digital is on IFLA's agenda as well; not only by looking at the digitization process as such, but also at strategies for providing long term access to digital content. Under the presidency of IFLA President Claudia Lux (2007–2009) an IFLA Manifesto for Digital Libraries was drafted. This Manifesto was endorsed by the IFLA Governing Board in December 2007 and is now in the process of adoption by UNESCO. A special working group was initiated to work on the preparation of Guidelines for Digital Libraries.⁴ These Guidelines are meant to be a set of standards for libraries which are in the process of building a digital library. The first draft is expected early 2010. Two years ago, the board of ICADS, one of the IFLA Core Activities, decided to refocus their actions on digital strategies only.⁵ And increasingly the over 50 IFLA Sections and Special Interest Groups now pay attention to digital issues; a development that was clearly visible in the main conference programme for Milan, as well. Many sessions and presentations in Milan paid attention to digital topics.

Italy, the host country of the 2009 IFLA World Library and Information Congress, is also quite active in the digital area. ICCU,⁶ a special department within the Italian government structure, is involved in various (inter)national projects with a focus on standards and guidelines for digitization of cultural

heritage. Quite a few of these projects are linked with Europeana, the larger European digitization initiative. Examples of these projects are MINERVA, MICHAEL and ATHENA.⁷ At a national level, Italy is developing Cultura Italia, a cross-domain multilingual portal for Italian cultural heritage.⁸ The IFLA conference being held in Milan therefore seemed a great asset for the Italian government to look for a special form of cooperation with IFLA. Their ATHENA Project had the resources available. An invitation to the IFLA Governing Board in December 2008 to host and sponsor a special one day conference on digital libraries was the result.

The timing of this invitation at first seemed somewhat difficult. Traditionally, the individual IFLA Sections, Special Interest Groups and Core Activities plan their Congress sessions at least one and a half years ahead, and by mid December most calls for proposals had already gone out. Therefore organizing a full one day conference in conjunction with the IFLA Milan Congress could only be realized if taken up by the Professional Committee itself. The proposal, however, so much appealed to the IFLA Governing Board that the idea was accepted and an ad-hoc Programme Committee was formed out of members of the Professional Committee.⁹

Conference purpose and focus

Fairly soon it was decided that the focus of the one day conference would be on perceptions and expectations of users on cross domain and multilingual access to libraries', museums' and archives' digital resources. To get a strong focus on the user perspective (a topic that had not been in the IFLA spotlight that much) and to be able to move away from the individual digital library initiatives and their service models, the speakers were found amongst the group of leading academic researchers who are able to focus on how they use digital information in their research today. The programme would also give insight in different cross domain strategies for digital libraries and user perspectives. Therefore also representatives from the other cultural heritage sectors and from the publishing world were invited to speak.

It was considered that the one day off site conference would be a good incentive to strengthen the topic of digital libraries within IFLA, not only in the work programme of the IFLA Professional Committee but also in the activities of the various IFLA working groups. To anticipate a strong embedding of the topic within the IFLA Sections and Special Interest Groups, each IFLA group was invited to send two representatives to the conference. This could stimulate a lively

discussion, not only during the conference, but also afterwards. Because of the cross domain interest for digital collections and online digital presentation, representatives of the international umbrella organizations of the archives (ICA), the audiovisual heritage institutes (CCAAA), museums (ICOM) and monuments and sites (ICOMOS) were invited as well. And so were representatives of the scientific world, the publishers' world, UNESCO and CDNL.¹⁰ Due to safety restrictions, the total seating space was limited to 260 people.

The conference programme was split up in three sessions and it focused on – respectively – user experience, digital content and digital strategies. Two leading threats were formulated. The presentations in the morning session were centered on the question: How does the environment look like? In the afternoon the central question was: What is the response of institutions to this new environment and what do they undertake to bring their digital activities in line with the wishes of this environment and to reach their target group?

Patrice Landry chaired the conference that was attended by over 250 people. A word of welcome was given by respectively the host of the conference, Mr. Elio Franzini, Headmaster of the Faculty of Letters and Philosophy of the University of Milan; the sponsor of the conference, Ms. Caffo on behalf of Mr. Maurizio Fallace, the Director General for Library Heritage, Cultural Institutes and Copyright of the Italian Ministry for Cultural Heritage and Activities, and of course by IFLA President Claudia Lux. And with these words of welcome the direction in which the conference would develop during the day was set right at the start: cross-domain cooperation was the theme they all stressed.

The first session

The first session was chaired by Caroline Brazier, who is Associate Director of the British Library and Chair of ICADS, the IFLA–CDNL Alliance for Digital Standards. The topic of the session was: The digital library user experience: a focus on current user research.

Three speakers were invited to address this topic. First speaker was David Nicholas who is Professor at and Director of the Department of Information Studies at the University College London (UK). His presentation was titled: 'The Digital Library User Experience: the virtual scholar'. Nicholas described and evaluated the information seeking behaviour of new generation users in the virtual environment. His conclusions were based on a seven year study of the



Figure 1. An attentive audience

virtual scholar (both academic staff and students) that was conducted by the CIBER research user Group at the University College London.¹¹ It showed a picture of a generation of users that has a search pattern that clearly is influenced by Google in terms of: volatility, viewing instead of reading, only looking at the first 10 results and so on. Nicholas predicted that this so called Google generation users (a group of users that includes not only digital natives, but also people from the older generations) will develop in a future generation of scholars that has no sense of what a collection is, since the web is not a collection and that they will fail to find what they want, because of their lack of information literacy. Nicholas suggested that in order to address both the Google generation and the next generation in an appropriate way, the library should evaluate its services differently and needs to try to understand the user. That is the only way to form a strong basis for new outcomes.

The second speaker was Daniel Teruggi. Teruggi is director of the Research and Experimentation Department at INA, the National Audiovisual Institute of France, and he is also Chair of the Europeana User Group. Europeana is a project that is funded by the EU and that aims at building a digital portal to the cultural heritage of European libraries, archives and museums. In his presentation, Teruggi described the methods that the Europeana project uses to get a good picture of the needs of its users, both the general public and professionals and scholars. Europeana considers the user perspective essential to be able to provide the success and acceptance of the project and its final results. To mention a few of the sources that Europeana is using to get useful feedback: log analysis, email reactions and online surveys. On the basis of first conclusions of this user research Teruggi advised libraries to take the user seriously in order



Figure 2. Conference Chair Patrice Landry (Switzerland) and Ellen Tise, IFLA President-elect 2007-2009, (South Africa) after the closing of the conference

to be able to provide digital information in the most useful way and to certainly not ignore them.

The last speaker of the first session was Elke Greifeneder, who is lecturer at the Berlin School of Library and Information Science at the Humboldt University of Berlin, Germany. Greifeneder is currently working on a PhD on online user research. Her research can best be described as a meta-study on user research studies; looking for instance at methodology and gaps between purpose and result of the studies. An important outcome was that current research is mainly focusing on the collection of static data, for instance: how many users used the quick-search at a certain date, and that it would be better for libraries to collect dynamic patterns, for instance by looking at the path a user takes on a website, in order to properly address the users' needs.

When overlooking the three presentations in this session, the general conclusion was that the current user research reveals a changing pattern of how people read and search information and that it might be good for libraries to take the user very seriously in order to be able to deliver digital library services that serve the user well, not only now, but also in the future.

The second session

The second session was chaired by Trine Kolderup-Flaten who is Library Director of the Bergen Public Library in Norway. She was Chair of the IFLA Division on Management and Technology and Secretary of the IFLA Section on Management & Marketing from 2005–2009. The topic of the session was: Digital Library Content: what users want and how they use it.

Two speakers were invited to address this topic: the first from a specialist professional's point of view, the second from a museum professional's point of view.

In his presentation titled 'A pianist's use of the digitized version of the Edvard Grieg Collection', Einar Røttingen, who is performing artist (piano) and also researcher and teacher at the Grieg Academy of the University of Bergen, Norway, represented a specific and personal user perspective, based on his experiences with the digitized version of the collection of scores and autographs of the Norwegian composer Edvard Grieg (1843–1907).¹² In recent years, an increasing number of collections and archives of music-related material has become available on the internet. Through this instant access into the musical heritage, performers, researchers and music lovers all over the world can gain information and knowledge about composer's works and lives. For the digitization of the Grieg collection, the cooperation between librarians, computer scientists, researchers and scholars had been key for the success of the project. On the basis of his own experiences with both Grieg's music and the digitized Edvard Grieg Collection as a whole, Røttingen showed the many advantages that digitized collections might bring to scholars and researchers worldwide. He mentioned for example: instant access without the necessity to travel; wider proliferation of the material, which leads to better reuse and preservation of the collections; and the improved direct use performing artists can make of the digitized music collections.

Susan Hazan, the second speaker in this session, is Curator of new media and Head of the Internet Office of the Israel Museum in Jerusalem, Israel. In her presentation with the intriguing title: 'When is a library not a library?' she gave an overview of current large scale Digital Library Initiatives such as the Gutenberg Project¹³ and Europeana, seen from a museum professional's point of view, in which she stressed the importance of those collections, not only for library communities, but also for communities in the museum and archival world. Hazan also presented some examples of interesting projects that provide the possibility for users to add content, in the form of Tagging and Reviewing. The Library of Congress FLICKR Commons Project¹⁴ and the projects of the Powerhouse Museum, Sydney, Australia¹⁵ were specifically highlighted. Finally she gave an impression of Web 2.0 tools that allow the creation of a community around the digital library (FLICKR, Delicious, Twitter, blogging etc).¹⁶ Her final conclusion was that Web 2.0 user generated content is an interesting incentive for digital collections that libraries, museums and cultural institutions in general should monitor and insert – also

if moderation is time consuming. Hazan made it clear that there still is a tension between formal and informal users and that it is therefore advisable to make a clear distinction – also for the public – between what content is library generated content and what is user generated.

Both the speakers in Session two painted a picture of the library of the future in which the need for librarians to collaborate with experts/researchers in order to provide users with online material was underlined. They both stressed the role users can play in deciding on the usefulness of digital content and also discussed the value a digitized collection can have for the users. Librarians are used to serve individuals. That doesn't change in the digital world. Therefore the librarian of the future, as much as any other information professional in the cultural heritage sector, still needs to know what the needs of individual users are, even when material and content are distributed online as a result of mass digitization projects.

The third session

The third session was chaired by Ingrid Parent, Librarian at the University of British Columbia, Chair of the IFLA Division on General Research Libraries and freshly chosen IFLA President-elect (2009–2011). The theme of the session was Strategies for institutions, responding to the digital challenge. Four speakers were invited for this session. The first two speakers gave an impression of what has been done in the digital library context within their own countries and they showed how their digital activities are aligned with the new environment in which their institutions have to work.

Zhu Qiang, Professor and Director at the Peking University Library of the Peking University in Beijing, China, gave an impression of some recent collaborative efforts on digital libraries in mainland China. He made a distinction between two kinds of digital library initiatives in China: the first one is the for-profit initiative, where digital content is created by service providers and publishers etc.; the second is the not-for-profit initiative, where libraries and governmental and public sectors take care of the digital content creation. The first national digital library project in China took place in 1997, and since that time, many initiatives have been developed, both on a national level, on provincial/regional level and on institutional level. Bottleneck issues that were faced in the Chinese based projects are for example duplication of digitization, standardization, intellectual property protection and digital preservation. The urge to overcome these issues led to the coordination of national initiatives,

so called Joint Meetings, that aim at strengthening the cooperation and sharing of digital libraries and yielded several Guidelines on Digital Libraries and the initiation of a High-Level Forum on Digital Libraries in China, led by the National Science and Technology Library China, that aims on improving national coordination and international cooperation.

The second example came from host country Italy. Rossella Caffo, Director of ICCU, the Central Institute for the Unified Catalogue of the Italian Libraries in Rome, Italy, gave in her presentation an overview of the various digital library projects that are coordinated by the Italian government. She discussed the results of and experiences with the national project *Cultura Italia* and with the European projects *MINERVA*, *MICHAEL*, and *ATHENA*. All these initiatives share a distributed approach, coordinative structures at a local, regional and national level and have tight liaisons with the national digitization strategies. They all know the active participation of numerous cultural institutions from every sector, and therefore know a broad cross domain approach. In this way the Italian/European projects have created a positive attitude among libraries, archives and museums, not only at a national level, but also at a European level. For both stakeholders and users the possibilities to access the information have been multiplied, not in the last place to make interoperability the core of the projects. Caffo gave an impression of how the various projects connect to each other and highlighted some very useful guidelines and handbooks that resulted from the projects in recent years.¹⁷

In culmination, the largest international Digital Library Project could of course not be missing in this part of the conference programme. John van Oudenaeren, Director of the World Digital Library at the Library of Congress (USA) in his presentation, gave an impression of how the World Digital Library responds to the challenges of the digital environment. He noted that the digital information environment is characterized by several factors. A growing group of users gets more and more reliant on electronic media to access information. Financial viability and sustainability of projects are a growing point of attention. In the digital world, there is a tendency towards globalization, but at the same time the digital divide is still persisting. The user can choose from a growing palette of digital devices and applications to get access to digital content and a shift takes place from text to audio and audiovisual. Search engines play a growing role in retrieving digital information and the user expectations are ever-rising. The Library of Congress started the World Digital Library project in 2005, in close cooperation with UNESCO.

To respond to the digital challenges the World Digital Library Project now for instance works on capacity building in the developing world, by creating digital conversion centres and by providing online tools for distributed content creation. Strong emphasis is laid on quality, performance and metrics; on the creation of metadata, individual indexing to facilitate the search engines and providing interface and content in at least seven languages and in all kinds of formats. Needless to say that for the World Digital Library collaboration is key. In April 2009 the World Digital Library was launched. The collection of the World Digital Library slowly but surely expands.

Summarizing, the two national focused presentations and the international World Digital Library presentation showed that digital libraries certainly provide an opportunity for institutions to give wider access to information in a variety of formats through collaboration within various institutions (libraries, museums, archives, publishers and other memory institutions). The rich history of the various projects often leads to an increase of national and international collaboration. This collaboration in turn often enhances user experiences by increasing interoperability, developing shared metadata and fostering competition amongst projects to ensure that they remain cutting edge and continue to develop new approaches to developing digital library platforms and collections. There are, however, significant barriers. These include the duplication of efforts and overlap in collections; overcoming copyright and intellectual property issues; overcoming matters of quality control and developing within the profession the management skills to make projects sustainable beyond the initial technical hurdles of development. To overcome these hurdles collaboration is essential.

The fourth speaker in this session provided the audience with a point of view from outside the cultural heritage institutions. Herman P. Spruijt, President of the International Publishers Association (IPA),¹⁸ in his presentation gave his personal view on the current dialogue between the IPA and IFLA through the IFLA IPA Steering Group.¹⁹ IPA internationally represents the publishers of scientific content. One of the main challenges for this sector in the coming years will be the improvement of approaches to distribute content to users. IPA foresees that cooperation between the publishers and library sector is needed more than ever to be able to succeed. Spruijt showed how convergence in the digital area is also present in the current dialogue between publishers and libraries. Topics in which publishers and librarians need to work together more closely and in a dialogue include digital services, virtual libraries, e-publishing, Google 'handling' and Open Access.

Through the presentations of both John van Oudenaren and Herman P. Spruijt it became clear that libraries, cultural institutions and publishers currently are still responding to cultural and technological change. These changes include a proliferation of new media platforms, a rapidly changing intellectual property environment, developing of technical standards, and, of course, financial uncertainty.

When reviewing the institutional perspectives that were given in the third session, four broad areas emerge that the professional of the future will need to address to be able to set out a strategy in response to the new digital challenge. Firstly the professional of the future will need training in managing digital library projects and programmes. This training preferably needs to be (secondly) cross-domain with other cultural institutions to ensure continued opportunities for collaboration and increased interoperability of standards. Thirdly: there will be a need for cross-domain integrity of projects with potential for lateral search engines etcetera, and last but not least: a broader knowledge needs to be developed within the profession of the way in which libraries and other digital content providers are going to address issues that are affected by IP, technical standards and Internet governance. This will influence our ability to preserve digital content and to ensure the preservation of our future cultural heritage, of which much is born digital.

To sum up

The summary of the day was taken care of by three ladies. Penny Carnaby, Director General of the National Library of New Zealand and Chair of CDNL, the Conference of Directors of National Libraries, was asked to summarize the conference and to pick out the essentials. She did this in a rather philosophical, personal and positive way, in which she was able to connect all presentations into one Story of The Digital Library Environment as it is today. She as well considered international and cross sectoral cooperation and connection with users as key elements for the Digital Library's future. Carnaby concluded with connecting the outcome of this conference day with the vision statement on digital libraries that CDNL formulated in 2008.²⁰ Both this vision and the conference presentations show that connecting the world's libraries is not an issue of technology. Libraries are about freedom of access to information. The digital revolution can play a democratizing role in this. And cooperation with users and international partners needs to be included in this process.

In the closing presentation Anna Maria Tammaro, Professor of LIS Studies at Parma University, Italy and

Chair of the IFLA Division on Education and Research, concluded that the professional community needs an international orientation and she stressed the role IFLA will need to play in this. She compared the library with a tree. The roots and the branches stand for the strong basis the library offers: continuity, stability and sustainability. The leaves are symbols for the accessibility of sources and for the future perspectives. The Digital Library offers the library of the future the possibility to profile itself as an institution in which and through which knowledge circulates. This was nicely pictured in a large and healthy tree of which many fruits were to be picked.

To be able to create such a profile it is necessary to develop a strong digital strategy. At the conference two possible options were formulated. On the one hand the Archival Approach, an approach in which the process of digitizing, digital preservation and distribution play a central role. To follow this approach the information professional will need to focus on collection development. Resource recovery then will be left to the search engines. On the other hand there is the Access to Knowledge Approach. For this approach the information professional will need to develop into a 'smart shopper' who anticipates the market and closely connects to the user's needs.

In both approaches, attention to the common, well known management issues continuously needs to be addressed. Management issues such as avoiding duplicate efforts, both in staffing and in finances; the necessity for standardization; the promotion of interoperability and the solving of copyright issues. A strong digital strategy needs a thorough implementation of IT applications. But that is not enough. It is of utmost importance to also take into account the search behavior and the wishes of the current and the future generation of library users. This is particularly applicable when digital content is created. It is of utmost importance that the library includes its users in the appraisal/assessment of the usefulness and value of the (digital) cultural heritage content. It will even turn out to be necessary to take the user seriously as content creator or as producer of digital information.

At an international level, the library world will focus to a growing extent on the building of a community of digital libraries, in which cooperation with users, the accessibility of content (cataloguing, description, preservation) and socialization of the collections will play a central role. The cooperation with other cultural heritage institutions (museums, archives) and other stakeholders (scientific and research institutions, publishers) offers splendid possibilities for the sharing of data, standards and formats, resources and material.

To better streamline the digital activities within IFLA in the future, the IFLA Professional Committee finally formulated a vision that could form the basis to position the Digital Library of the future in a solid way. This vision is formulated as follows:

To employ the fullest potential of digital technology in partnership with users by enabling seamless and open access to all types of information without limits to format or geography, and to enhance the ability of libraries, archives and museums to collaborate among themselves and with others to offer the broadest and most complete service possible.

Three final conclusions that followed from the conference on digital libraries support the vision statement. These conclusions are: a) Only IT is not enough; b) cooperation with users is necessary; c) international cooperation with other cultural heritage institutions and other stakeholders (e.g. publishers) is important.

Ellen Tise, IFLA President 2009–2011 closed the conference day by thanking the organizers, the sponsors, the speakers and the participants, expressing the full support the IFLA Professional Committee will have to follow up the theme of digital libraries in the IFLA programme in the coming years, also through her Presidential theme of Libraries Driving Access to Knowledge.²¹

Follow up

On the IFLA website, the conference programme, the summaries, the biographies and the PowerPoint presentations of the speakers have been made available (see: www.ifla.org/en/news/digital-library-futures-conference-and-the-future-of-digital-libraries-within-ifla). In the near future the IFLA website will also have a special page on the topic of digital libraries, to connect all ongoing and new activities in this broad area within IFLA.

A full text publication of the proceedings of this Digital Library Futures Conference will be available both in paper form through the IFLA Publication series (estimated publication date: April 2010) and online through the IFLA website.²²

As of now, the IFLA Professional Committee will continue to develop the theme of digital libraries – in all different aspects – within IFLA and within all the international IFLA partnerships. Currently the IFLA Professional Committee is working on a thematic thread on the Digital Libraries theme for the professional programme of the IFLA Congress 2010 that will be held in Gothenburg, Sweden, from August 10–August 15.²³

One of the latest IFLA developments was presented early December 2009 with the announcement of the De Gruyter Saur/IFLA Research Paper Award 2010 for an unpublished paper in the area of Digital Libraries by a young professional.²⁴

Acknowledgement

The author wishes to thank Trine Kolderup-Flaten, Patrice Landry, Steve Witt and Matthias Einbrodt for the notes they made during the conference, and that she used at some points for this report.

Notes

Unless otherwise noted, all links were last accessed 15 December 2009.

1. See for the World Digital Library: <http://www.wdl.org/en/>
2. See for the National Libraries Global Project: <http://www.cdnl.info/2009/national-libraries-global-status.pdf>. The National Digital Libraries Global is currently being reviewed by the European Digital Library team with a report due in the first quarter of 2010. This report will contribute to a formal decision regarding the future direction of the National Libraries Global project. (Source: Briefing CDNL Secretariat, December 2009).
3. See for Europeana: <http://www.europeana.eu/portal/>
4. This initiative is co-sponsored by the World Digital Library Project.
5. The acronym ICADS stands for IFLA–CDNL Alliance for Digital Strategies. See for more on ICADS: <http://www.ifla.org/icads>
6. The acronym ICCU stands for: l'Instituto Centrale per il Catalogo Unico delle biblioteche italiane e per le informazioni bibliografiche. It is one of the institutions of the Ministry of Culture of Italy (Ministero per i beni e le attivita' culturali). See for more on ICCU: www.iccu.sbn.it
7. The acronym MINERVA stands for: Ministerial Network for Valorising Activities in digitization. MINERVA is a thematic network in the area of cultural, scientific information and scholarly content. See for more on MINERVA: <http://www.minervaeurope.org/>; the acronym MICHAEL stands for: Multilingual Inventory of Cultural Heritage in Europe. See for more on MICHAEL: www.michael-culture.org; the acronym ATHENA stands for: Access To cultural HERitage Networks Across Europe. ATHENA is a network of best practice in the European eContentplus programme. See for more on ATHENA: <http://www.athenaeurope.org/index.php>
8. See for more on Cultura Italia: <http://www.culturaitalia.it/pico/index.html?T=1260871502104>
9. The Programme Committee was formed by Caroline Brazier, UK (Chair of ICADS); Trine Kolderup-Flaten, Norway (Chair of Division VI; Division of Management and Technology); Ingrid Parent, Canada (Chair of Division I; Division of General Research)

- Libraries), Anna Maria Tamaro (Chair of Division VII; Division of Education and Research), Steve Witt (Chair of Division II; Division of Special Libraries) and Ingeborg Verheul (IFLA HQ). Patrice Landry, (Chair of Division IV; Division of Bibliographic Control) chaired the programme committee and ICCU would take care of the practical organization.
10. IFLA cooperates with ICA, CCAAA, ICOM and ICOS in the LAMMS group. This group focuses on intensifying cooperation between the cultural heritage NGO's in areas of mutual interest. Global Digital Libraries is one of the topics on the agenda. CDNL and ICSTI are permanent observers of the LAMMS group. See for more information: <http://www.ifla.org/en/lamms>
 11. See for more on the user study of the UCL: <http://www.jisc.ac.uk/whatwedo/programmes/resourcediscovery/googlegen.aspx>
 12. See for the Edvard Grieg collection: http://www.edvardgrieg.no/engelsk/grieg_intro_eng.html
 13. See for more on the Gutenberg Project: http://www.gutenberg.org/wiki/Main_Page
 14. See for the Library of Congress FLICKR project: http://www.loc.gov/rr/print/flickr_pilot.html and: http://www.flickr.com/photos/library_of_congress/
 15. See for more on the digital collection of the Powerhouse Museum: <http://www.powerhousemuseum.com/collection/database/>
 16. Photo sharing site FLICKR: <http://www.flickr.com/>; social bookmarking site Delicious: <http://delicious.com/>; sharing news tweets site TWITTER: <http://twitter.com/>
 17. Handbook on cultural web user interaction: <http://www.minervaeurope.org/publications/handbookwebusers.htm>
 18. See for more on the IPA: <http://www.internationalpublishers.org/>
 19. See for more on the IPA/IFLA Steering Group: <http://www.ifla.org/en/ifla-ipa>
 20. See for the CDNL vision statement on digital libraries: http://www.cdnl.info/2008/CDNL_Vision_for_the_Global_Digital_Library.pdf
 21. See for more on Ellen R. Tise's Presidential Programme: <http://www.ifla.org/en/president/theme>
 22. Ingeborg Verheul, Anna Maria Tamaro, Steve Witt, (ed.), *Digital Library Futures, user perspectives and institutional strategies*. [München, KG Saur, 2010].
 23. See for more on the 2010 IFLA Congress in Gothenburg, Sweden: <http://www.ifla.org/en/ifla76>
 24. See for more on the Award: <http://www.ifla.org/en/news/de-gruyter-saur-ifla-research-paper-award-2010>

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International Conference on Traditional Knowledge, New Delhi (India): Report

International Federation of
Library Associations and Institutions
36(1) 82
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209360769
ifla.sagepub.com



Sanjay K. Bihani

The Federation of Indian Chamber of Commerce and Industry (FICCI), in cooperation with the World Intellectual Property Organization (WIPO) and the Department of Industrial Policy and Promotion (DIPP), Ministry of Commerce and Industry of the Government of India organized an International Conference on Traditional Knowledge at New Delhi, India on 13th November 2009.

The Opening Session was started with remarks made by Dr Prodipto Ghosh, Chairman FICCI Task Force on Traditional Knowledge and Former Secretary, Government of India. The keynote address was delivered by Shri Ajay Shankar, Secretary, DIPP, M/o Commerce and Industry of the Government of India. Dr. Francis Gurry, Director General of WIPO, Geneva, inaugurated the conference. In his inaugural address he emphasized the need for practical and pragmatic solutions for effective protection of Traditional Knowledge and Traditional Cultural Expressions. The concluding remarks were made by Dr Amit Mitra, Secretary General of FICCI.

The Conference was attended by more than 150 participants from across the globe, including, India, Bangladesh, Australia, Kenya, Mexico, South Africa, USA, etc.

The objective of this conference was to assist stakeholders in sharing their experiences, articulating their views and providing meaningful recommendations regarding 'The State of Play in the International Protection of Traditional Knowledge (TK) and Traditional Cultural Expressions (TCEs): Perspectives on the WIPO Inter-governmental Committee (IGC)' and 'The Effective Protection of Traditional Knowledge and Traditional Cultural Expressions: National and Community Experiences'.

The Conference provided an excellent opportunity to understand international developments on Traditional Knowledge; understand how IP can

be used for effective protection and commercialization of Traditional Knowledge and Traditional Cultural Expressions; discuss the sui generis system for protection of Traditional Knowledge; share international experience on access and benefit sharing; discuss capacity building measures on Traditional Knowledge; and discuss the way forward in providing effective protection of Traditional Knowledge.

Distinguished speakers from the African Regional Intellectual Property Organization (ARIPO), IP Australia, Traditional Knowledge Digital Library (TKDL) of India, Copyright Board of Kenya, Adjunta para Organismos of Mexico, Indigenous Knowledge Systems Programme of South Africa, Intellectual Property Expert from United States of America, Head of Traditional Knowledge Division of WIPO as well as many Indian experts in the field addressed the participants and presented their invited talks and papers. These talks and papers were informative, interesting and specialized case studies on the international developments on Traditional Knowledge and Traditional Cultural Expressions. There was also question and answer session after the presentations.

In the concluding session there was an open house discussion on "The Way Forward: Options for the Effective Protection of TK and TCEs". Experts exchanged their views and ideas with participants and paved the way for an international consensus on this issue. This one-day conference, therefore, was more than successful in its objectives.

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News

International Federation of
Library Associations and Institutions
36(1) 83–86
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209360768
ifla.sagepub.com



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Membership matters

New members

We bid a warm welcome to the 23 members who have joined the Federation between 26 September and 10 December 2009:

Institutions

The Royal Society for the Blind South Australia
Incorporated, Australia
East West University Library, Bangladesh
University of Manitoba Libraries, Canada
Central Library & Documentation Center of
University of Tehran, Iran, Islamic Republic of
Université Saint-Esprit de Kaslik, Lebanon
Mangosuthu University of Technology, South Africa

International associations

Association internationale francophone des
bibliothécaires documentalistes-AIFBD,
Burkina Faso
Globethics.net, Switzerland

Other associations

Association by Realization of Cooperation with
International, Public and Other Organizations,
Kazakhstan
Association genevoise des bibliothécaires et
professionnels diplômés en information
documentaire, Switzerland

Personal affiliates

Kari James, Australia

Margaret Zelman Law, Canada
Joanne Stanbridge, Canada
Anthi Katsirikou, Greece
Ornella Salvioni, Italy
Mireille Kassis Jarjour, Lebanon
Elena Nipper, United States

Student affiliates

Shadi GhafghaziAsl, Iran, Islamic Republic of
Beth Park, Luxembourg
Ashley Dietrick, United States
Chris Schafer, United States
Laura Charney, United States
Amy Neeser, United States
Marcus Adams, United States

Future IFLA conferences and meetings

Gothenburg 2010

Open access to knowledge – promoting sustainable progress

The chosen motto for the next World Library and Information Congress in Gothenburg 2010 energizes and supports the presidential motto of the new IFLA president, Ellen Tise: Libraries driving access to knowledge.

Calls for papers

The content of the IFLA Conference Programme is organised by different professional groups (Sections, Core Programmes and Special Interest Groups).

Calls for papers will be submitted through these groups and made available on this web page as soon as delivered: <http://www.ifla.org/en/calls-for-papers/216>

Further information: IFLA Congress Secretariat, c/o 4B, 50 Speirs Wharf, Port Dundas, Glasgow G4 9TH, Scotland, UK. Tel +44 (0) 141 331 0123. Fax: +44 (0) 207 117 4561. E-mail: ifla2010@congrex.com
Congrex website: www.congrex.com Conference website: <http://www.ifla.org/en/ifla76> Conference First Announcement (PDF): <http://www.ifla.org/files/hq/annual-conference/ifla76/first-announcement-en.pdf>

Satellite meetings

The following satellite meetings have been approved by IFLA's Professional Committee at its meeting on 30 November 2009:

Building Strong Communities: Unleashing the Potential of Public Libraries to Build Community Capacity, Engagement and Identity. Malmö, Sweden, 7–10 August 2010

Contact person: Ruth Ornholt Ruth.Ornholt@post.hfk.no
Sponsors: IFLA's Public Library Section.

Co-sponsors: The Regional Library Scania; Malmö City Library and the Swedish Arts Council.

Open Access to Science, Medical and Technical Information: Trends, Models and Strategies for Libraries. Chania, Crete, Greece 6–8 August 2010

Contact person: Janet Webster janet.webster@regonstate.edu

Sponsors: IFLA's Science and Technology Libraries and Health and Biosciences Sections

Co-sponsor: The Applied Stochastic Models and Data Analysis International Society – ASMDA www.asmda.com.

New Techniques for Old Documents – Scientific Examination Methods in the Service of Preservation and Book History. Uppsala, Sweden, 17–18 August 2010 (with possible visits on 19 August)

Contact person: Per Cullhed per.cullhed@ub.uu.se

Sponsors: IFLA's Preservation and Conservation and Rare Books and Manuscripts Sections

Building Bridges for Children's Access Rights; Effective Cooperation of Children's and School Libraries. Amsterdam, Netherlands, 16–17 August 2010

Contact person: Ingrid Bon ingrid.bon@biblio-service.nl

Sponsors: IFLA's Library Services for Children and Young Adults and School and other Resource Centres Sections

Co-sponsor: International Association of School Libraries

Libraries in a Multicultural Society – Possibilities for the Future. Copenhagen, Denmark, 17–18 August 2010 (with possible visits on 19 August)

Contact person: Mijin Kim mijin.kim@lac-bac.gc.ca

Sponsors: IFLA's Library Services to Multicultural Populations Section and Indigenous Matters Special Interest Group

Co-sponsors: Copenhagen Public Libraries; Danish Library Centre for Integration

Cooperation and Collaboration in Teaching and Research Trends in Library and Information Studies Education. Borås, Sweden, 8–9 August 2010

Contact person: Gillian Hallam g.hallam@qut.edu.au
Sponsors: Education and Training and Library Theory and Research Sections

Co-sponsors: Association for Library and Information Science Education (ALISE); European Association for Library and Information Science Education and Research (EUCLID);

Open Access and the Changing Role of Libraries. Gothenburg, Sweden, 9 August 2010

Contact person: Jan Hagerlid Jan.Hagerlid@kb.se
Sponsor: IFLA Information and Technology Section
Co-sponsors: National Library of Sweden

The Global Librarian. Borås, Sweden, 9 August 2010

Contact person: Loida Garcia-Febo loidagarciafebo@gmail.com

Sponsors: IFLA New Professionals Special Interest Group and Management of Library Associations Section.

Open Access to Parliamentary Information. Stockholm, Sweden, 7–9 August 2010

Contact person: Moira Fraser Moira.Fraser@parliament.govt.nz

Sponsor: Library and Research Services for Parliaments Section

Co-sponsor: Swedish Parliament

Information Literacy: Context, Community, Culture. Gothenburg, Sweden, 8–9 August 2010

Contact person: Sheila Webber S.Webber@sheffield.ac.uk

Sponsor: IFLA Information Literacy Section

With the Right to Read. Oslo, Norway, 6–7 August 2010 or 17–18 August 2010

Contact person: Tone Moseid tone.moseid@abm-utvikling.no

Sponsors: IFLA Library Services to People with Special Needs; Libraries Serving People with Print Disabilities; Literacy and Reading Sections
Co-sponsors: The International DAISY Consortium, The International Network for Easy to Read

Marketing Libraries in a Web 2.0 World. Stockholm, Sweden, 7–8 August 2010

Contact person: Raymond Bérard berard@abes.fr
Sponsor: IFLA Management and Marketing Section

Next Generation Users – Next Generation Services – Next Generation Information Professionals. Aalborg, Denmark, 7–9 August 2010

Contact person: Bodil Wöhnert bwohnert@mail.tdcadsl.dk

Sponsors: IFLA's Reference and Information Services; Academic and Research Libraries; Genealogy and Local History Sections.

Co-sponsors: support from the Danish Library Association.

Grants and awards

De Gruyter Saur / IFLA Research Paper Award 2010

Sven Fund, Managing Director of De Gruyter Saur and Jennefer Nicholson, IFLA Secretary General, invite submissions of papers for the De Gruyter Saur / IFLA Research Paper Award 2010.

This is an annual award for the best research paper on a topic of importance to publishing and access to information. This year's topic is Digital Libraries with subthemes:

- the digitization process
- access to digital information
- preservation of digital material
- use and users of the digital library

The award is aimed at encouraging research and publication by those relatively new to the profession. Those with no more than eight years of professional experience in library and information services are eligible.

The award is an amount of EUR 1,000 (one thousand euros)

The selected paper must have been written between January and December 2009 and not have been published. The paper's maximum length should be app. 5,000 words and should be submitted in English.

The recipient is required to present a paper based on the research in at least one national or international conference in the two year period from the commencement of the award: August 2010 – August 2012. Due acknowledgement must be given to the De Gruyter Saur award.

The selection panel for the award comprises representatives from both IFLA and De Gruyter Saur. All applicants will be required to give De Gruyter Saur the right to publish their submitted paper.

Both IFLA and De Gruyter Saur will announce and further publicize the award via their websites, relevant mailing lists, journals and newsletters, press conferences, news releases etc.

The recipient of the award will be announced at the President's Lunch during the IFLA World Library and Information Congress in Gothenburg, August 2010. If the recipient is attending this Congress s/he will also be invited to the President's Lunch.

Papers, accompanied by the completed application form, must be submitted by 31 March 2010. Incomplete application forms will not be considered and the decisions of the jury are final.

See also <http://www.ifla.org/en/news/de-gruyter-saur-ifla-research-paper-award-2010>.

Adopt a student!

Open access to IFLA! Open a door to IFLA's network!

The goal. To draw Library and Information Science (LIS) students' attention to IFLA through sponsoring a 1 year free IFLA student membership.

The idea Private and/or company sponsors play the role of LIS students' mentors through taking over the fee for a 1 year student IFLA membership

IFLA Education & Training Section (SET) offers LIS students the opportunity for a 1-year free IFLA membership!

Therefore IFLA SET is looking for sponsors – LIS practitioners, academics, publishers or consultants – who are willing to pay for one year the students membership fee of 57 Euro, and for LIS students who are interested in joining the programme.

Please find further information about the 'Adopt a Student' initiative, including the full list of sponsors who have already registered in the Education and Training Section at <http://www.ifla.org/en/set/adopt-a-student>

Don't miss this chance to grow the LIS profession by sponsoring a student, or if you are a student, don't miss the chance to learn more about IFLA and LIS careers across the world!

IFLA publications

Guidelines for Legislative Libraries. By Keith Cuninghame. Munich: De Gruyter Saur, 2009. ISBN 978-3-598-22045-6. (IFLA Publications; Nr 140). Euro 89.95 / for USA, Canada, Mexico US\$ 139.00. Special price for IFLA members Euro 69.95 / for USA, Canada, Mexico US\$ 108.00. Also available as an eBook

The scale of change in the provision of information and research services since the original edition of this guide (published 1993), in particular the development of the Internet, meant that it soon became clear that a more or less complete re-write was needed, rather than simply a revision of the existing text. However,

the new edition has kept to the spirit of the original, which has been a valuable tool for many.

IFLA Publications are available from

K. G. Saur Verlag: www.saur.de

or

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From other organizations

News from New Zealand

3M Award for Innovation in Libraries

The 3M Award, established in 1996, promotes excellence and innovation in library and information services and is made to the librarian, information specialist or team who has applied an innovative and entrepreneurial approach to their business.

The winner of the 2009 award was the Aotearoa People's Network Kaharoa, which received a trophy and a cheque for NZ\$4,000 a special ceremony during the 2009 LIANZA Conference in Christchurch on 12 October 2009, attended by 660 members of the New Zealand library and information profession.

The Aotearoa People's Network Kaharoa, as part of the National Library of New Zealand and in partnership with New Zealand Public Libraries, was established in 2007 from government digital initiative funding to deliver free digital services to all New Zealanders through their libraries and on some Marae (Maori community meeting places).

PCs, monitors, webcams, headsets, wifi hotspots and scanners for digitizing local content are provided to libraries, along with access to a kete (digital repository), hosted by APNK and fast Internet connections. The service is safe and secure with content filtering, virus protection and other safety measures.

There are currently 119 APNK partner libraries across the country.

For information about Aotearoa People's Network Kaharoa please visit: <http://www.aotearoapeoples-network.org/>

Top of the South Stories: Te Tau Ihuo o te Waka a Maui by Nelson, Tasman and Marlborough Public

Libraries, Nelson Marlborough Institute of Technology Learning Centre and Nelson Provincial Museum was awarded second place and received NZ\$1000.

Third place was awarded to Auckland City Libraries for their Early Learning through Active Movement initiative; they received \$500 worth of 3M product.

For further information please contact

Megan Button, Communications Manager, LIANZA - 04 473 5834. Email: megan@lianza.org.nz

or

Margaret Garland, Manager Aotearoa People's Network Kaharoa. Email: Margaret.Garland@natlib.govt.nz

Letter of Recognition for Dorothy Anderson

The LIANZA letter of recognition is awarded to Dorothy Anderson, retired of Bath, England in recognition of her significant contribution globally which has strengthened the technical and bibliographic work of all countries including New Zealand.

Dorothy Anderson was born in Christchurch and educated at the University of Canterbury receiving an MA with first class honours in History in 1945. She worked at Country Library Service from 1945-47 and returned to New Zealand in 1957 to 1958 to work on the retrospective national bibliography.

The bulk of her distinguished career however has been in the UK and working on international projects with IFLA and UNESCO.

Dorothy Anderson has numerous significant achievements but LIANZA notes in particular her leadership to secure Universal Bibliographic Control where she guided the production and publication of the bibliographic standards and name authority standards which underlie the descriptive cataloguing work of all libraries.

Dorothy Anderson has published widely. She is not only a theorist but an outstanding pragmatist, an achiever and activist in promoting the value of standards for the purpose of access to all.

LIANZA is pleased to recognize the lifelong professional contribution of this distinguished expatriate.

[Dorothy Anderson retired as Director of the IFLA Office for Universal Bibliographic Control in 1983. An appreciation by Joel Downing appeared in *IFLA Journal*, Vol. 9, No. 4, 331-333 (1983) – Ed.]



International calendar

International Federation of
Library Associations and Institutions
36(1) 87–88
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359985
ifla.sagepub.com



2010

13–17 April, 2010. Denver, Colorado, USA.

MW2010: Museums and the Web 2010.

Further information: Conference web site at <http://www.archimuse.com/mw2010/>

Contacts: Jennifer Trant and David Bearman, Co-Chairs: Museums and the Web 2010. Email: mw2010@archimuse.com Tel. +1 416 691 2516 | fax +1 416 352-6025

19–21 April 2010. Córdoba, Spain.

MELCom International 32nd Conference.

Organizers: Melcom International (Middle East Libraries Committee) and European Association of Middle East Librarians

Further information: Email: melcom.international@gmail.com Website: <http://www.sant.ox.ac.uk/ext/melcomintl/melconfCordob10.shtml>

26–28 April 2010. Trondheim, Norway.

emtacl10: International Conference on Emerging Technologies in Academic Libraries 2010.

Further information: Conference website: <http://www.emtacl.com> or e-mail Karen Johanne Buset or Ole Husby at: emtacl@ub.ntnu.no

2–4 May 2010. Oslo, Norway.

Joint Technical Symposium 2010. *Theme:* Digital challenges and digital opportunities in audiovisual archiving.

Further information: George L. Abbott, Librarian Emeritus, Syracuse University Library, 311 Stonecrest Drive, Syracuse, NY 13214-2432, USA. E-mail: glabbott@syr.edu JTS 2010 website: jts2010.org

24–28 May 2010. Zadar, Croatia.

Libraries in the Digital Age (LIDA) 2010.

Further information: <http://www.ffos.hr/lida/> E-mail: lida@ffos.hr

25–27 May 2010. Gaborone, Botswana.

International Conference on Digital Scholarship and Emerging Technologies. *Theme:* Mapping and demystifying digital scholarship: Trends, challenges and opportunities.

Further information: Prof. Stephen M. Mutula. E-mail: mutulasm@mopipi.ub.bw or smutula@hotmail.com Conference website: <http://www.ais.up.ac.za/digi/digitalscholarship2010.htm>

25–28 May 2010. Chania, Crete, Greece.

2nd Qualitative and Quantitative Methods in Libraries International Conference (QQML2010).

Contacts: Dr. Anthi Katsirikou, Conference Co-Chair. E-mail: anthi@asmda.com; Conference secretariat: secretariat@isast.org

Further information: Conference website: <http://www.isast.org/qqml2010.html>

26–28 May 2010. Amsterdam, Netherlands.

17th World Congress on Information Technology 2010. *Theme:* Challenges of Change.

Further information: www.wcit2010.com/ *Contact:* info@wcit2010.org

26–28 May 2010. Lusaka, Zambia.

eLearning Africa 2010.

Further information: Conference website: <http://www.elearning-africa.com/>.

1–4 June 2010. Den Haag, The Netherlands.

Archiving 2010.

Further information: Conference website: www.imaging.org/conferences/archiving2010

Contact: Diana Gonzalez, IS&T Conference Program Manager. E-mail: archiving2010@imaging.org

16–18 June 2010. Helsinki, Finland.

ELPUB 2010 – Publishing in the Networked World: Transforming the Nature of Communication. 14th

International Conference on Electronic Publishing.

Further information: Conference website: <http://conferences.aepic.it/elpub2010/>

17–18 June. Bari, Italy; 19–20 June. Cassino, Italy.

InSITE 2010 – Informing Science and IT Education Conference.

Further information: Conference website: <http://insite.nu>

28–30 June 2010. London, UK.

i-Society 2010. International Conference on Information Society.

Further information: Conference website: www.i-society.eu

5–10 July 2010. Miami, Florida, USA.

ICWS 2010: 8th IEEE International Conference on Web Services. Theme: Innovations for web-based services.

Further information: Conference website: <http://conferences.computer.org/icws/2010/> or <http://icws.org>

8–10 July 2010. Cambridge, UK.

Sixth Islamic Manuscript Conference. Theme: Central Asian Islamic manuscripts and manuscript collections.

Further information: The Islamic Manuscript Association Ltd. c/o 33 Trumpington Street, Cambridge CB2 1QY, United Kingdom. E-mail: tima@islamicmanuscript.org Fax: +44 (0)1223 302 218.

10–15 August 2010. Göteborg, Sweden.

IFLA World Library and Information Congress: 76th IFLA General Conference and Council.

Theme: Open access to knowledge – promoting sustainable progress.

Further information from: IFLA Headquarters, PO Box 95312, 2509 CH The Hague, The Netherlands. Phone: +31 70 314 0884. Fax: +31 70 383 4827. E-mail: ifla@ifla.org. Website: www.ifla.org

22–24 September 2010. Ankara, Turkey.

2nd International Symposium on Information Management in a Changing World. Theme: The impact of technological convergence and social networks on information management.

Further information: <http://by2010.bilgiyonetimi.net/english.html>

24–26 August 2010. Shanghai, China.

5th Shanghai International Library Forum. Theme: City life and library service.

Further information: Ms. Ren Xiapei (for program) or Mr. Zhou Qing (for logistics): 1555 Huai Hai Zhong Lu, Shanghai 200031, China. Tel: +86.21.6445.4500. Fax: +86.21.6445.5006. E-mail: silf2010@libnet.sh.cn Website: <http://www.libnet.sh.cn/silf2010>

12–14 October 2010. Cape Town, South Africa.

ICT4D 2010. International Conference on Information and Communication Technology for Development.

Further information: Conference website: <http://www.itc4d.org>

October–November–December 2010. Brussels, Belgium, for 3 months.

International Training Program on “INFORMATION”: STIMULATE = Scientific and Technological Information Management in Universities and Libraries: an Active Training Environment. (Edition 10).

Contacts: E-mail: stimulate@vub.ac.be or Paul. Nieuwenhuysen@vub.ac.be Fax 32 2 629 2693 (or 2282) Tel. 32 2 629 2629 or 32 2 629 2429 or 32 2 629 2609 Telex 61051 vubco-b Classical mail: STIMULATE-ITP (or Paul NIEUWENHUYSEN), University Library, Vrije Universiteit Brussel, Pleinlaan 2, B-1050 Brussels, BELGIUM. *Further information:* <http://www.vub.ac.be/BIBLIO/itp>

13–18 August 2011. San Juan, Puerto Rico.

IFLA World Library and Information Congress: 77th IFLA General Conference and Council.

Theme: Libraries beyond libraries: integration, innovation and information for all.

Further details: IFLA Headquarters, PO Box 95312, 2509 CH The Hague, The Netherlands. Phone: +31 70 314 0884. Fax: +31 70 383 4827. E-mail: ifla@ifla.org. OR Puerto Rico National Committee, IFLA 2011, San Juan, Puerto Rico. E-mail ifla2011.puertorico@upr.edu OR executivesecretariat@acuril.org

2011 Ireland, Dublin, 24–29 July; 2012 Canada; 2013 Denmark, Århus; 2014 Austria, Vienna; 2015 USA, New York

International Association of Music Libraries, Archives and Documentation Centres (IAML). Forthcoming conferences.

Further information: <http://www.iaml.info/en/activities/conferences> or e-mail Roger Flury, AML Secretary General at: roger.flury@natlib.govt.nz



Abstracts

International Federation of
Library Associations and Institutions
36(1) 89–100
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sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0340035209359989
ifla.sagepub.com



Sommaires

New journal models and publishing perspectives in the evolving digital environment. [Nouveaux modèles de revues et nouvelles perspectives de publication dans un environnement numérique évolutif.]

Maria Cassella et Licia Calvi

IFLA Journal 36 (2010) No. 1. pp. 7-15

Le libre accès associé aux outils de réseau Web 2.0 modifie rapidement la fonction et les cadres des revues traditionnelles ainsi que le rôle des éditeurs. Le contenu étant de plus en plus disponible en ligne dans des dépôts numériques et sur le Web, un environnement d'information intégré, interconnecté et multidisciplinaire se développe et le modèle d'Oldenburg se désintègre : les revues ne sont plus la principale référence pour la production de la recherche scientifique, comme elles l'étaient essentiellement pour les disciplines scientifiques, techniques et médicales, mais l'attention des chercheurs se concentre surtout sur le niveau des articles. Les nouveaux modèles de revues évoluent en conséquence. La première partie de cet article étudie ces nouveaux modèles de revues expérimentales, à savoir revues scientifiques en ligne basées sur des archives ouvertes (« overlay journal »), revues composites librement accessibles sur Internet (« interjournal ») et revues à différents niveaux. La seconde partie de l'article attire l'attention du lecteur sur le rôle que peuvent jouer les éditeurs commerciaux sur cette scène numérique d'écriture en continu. Les auteurs estiment que les éditeurs devraient se consacrer bien plus aux services constituant une valeur ajoutée pour les auteurs, les lecteurs et les bibliothèques, notamment services de navigation, de découverte, d'archivage et d'évaluation.

The Cataloguing Cultural Objects experience : Codifying practice for the cultural heritage community. [L'expérience de cataloguer les objets culturels: codifier les pratiques de la communauté du patrimoine culturel.]

Erin Coburn, Elisa Lanzi, Elizabeth O'Keefe, Regine Stein et Ann Whiteside

IFLA Journal 36 (2010) No. 1. pp. 16-29

Tout un corpus de pratiques de catalogage s'est constitué autour de l'utilisation commune de Cataloguing Cultural Objects: a guide to describing cultural works and their images (CCO), depuis 2003, date de la publication du guide. CCO est un manuel de description, de documentation et de catalogage des œuvres culturelles et de leurs substituts iconographiques. Principalement concentré sur l'art et l'architecture, soit, mais pas uniquement, la peinture, la sculpture, la gravure, les manuscrits, photographies, édifices construits, installations et autres médias visuels, CCO aborde également de nombreux types d'œuvres culturelles, parmi lesquelles les sites archéologiques, les objets manufacturés et les objets utilitaires relevant de la culture matérielle.

Cet article examine les influences de CCO et de sa mise en œuvre dans les paramètres d'application de catalogage pour des communautés du monde des musées et des iconothèques. En comparant trois scénarios différents les auteurs ont identifié des stratégies communes utilisées pour répondre aux défis spécifiques à chaque projet. Les trois projets présentés abordent les points suivants: 1. le développement d'un standard de fait pour permettre aux collections d'histoire et d'histoire naturelle de faire partie des catalogues collectifs et réservoirs numériques via l'harmonisation des schémas XML CDWA Lite et museumdat; 2. l'utilisation de CCO dans le projet Society of Architectural Historians Architecture Resources Archives (SAHARA), une collection partagée en ligne d'archives photographiques consacrées à l'architecture et aux paysages culturels du monde entier. Le projet SAHARA a développé un modèle de catalogage destiné aux chercheurs et aux bibliothécaires; 3. l'application de CCO, parallèlement à d'autres recommandations, à des notices d'œuvres culturelles dans le cadre des bibliothèques. Ces expériences récentes de catalogage avec CCO ont permis de constituer un corpus significatif de notices émanant des musées et iconothèques destinées aux systèmes d'accès intégrés LAM (library/Archive/Museum). Les auteurs analysent en quoi les processus de décision en matière de catalogage (par exemple des approches

différentes du concept « d'œuvre ») peuvent influencer sur la manière de rassembler ces notices dans ces systèmes.

Content development in an indigenous digital library: A case study in community participation. [Développement du contenu dans une bibliothèque numérique indigène: une étude de cas sur la participation de la communauté.]

Elizabeth Greyling et Siphon Zulu

IFLA Journal 36 (2010) No. 1. pp. 30-39

L'Afrique ainsi que les bibliothèques et centres d'informations africains sont mal équipés pour pouvoir contribuer véritablement à l'économie mondiale actuelle du savoir numérique. Localement, le faible contenu Internet retarde la prise de participation dans les ressources numériques par les communautés locales et entrave le développement de compétences numériques. Une bibliothèque ayant un contenu d'intérêt local peut inciter les communautés à utiliser les services bibliothécaires, particulièrement si elles ont la possibilité de participer au développement du contenu. Les bibliothèques publiques, au service des communautés ethniques dont l'histoire est consignée dans la tradition écrite, picturale et orale, sont bien placées pour servir de plateforme à un effort public en vue de rassembler et diffuser le savoir indigène dans les communautés qu'elles desservent. Cet article présente une étude de cas sur la participation de la communauté au développement du contenu destiné à une bibliothèque numérique sur le savoir indigène. La description du programme souligne l'interaction entre la bibliothèque, la communauté et les technologies utilisées. Les défis, résultats et leçons tirées dans le cadre de la mise en oeuvre de ce programme sont discutés et les avantages pour la communauté sont mis en avant. En fournissant aux communautés locales un service d'information en ligne sur une base contextuelle, les bibliothèques publiques africaines assurent un accès moderne aux ressources du patrimoine culturel grâce aux technologies de l'information et de la communication du 21^e siècle. Cela doit contribuer à combler le fossé numérique et permettre aux communautés africaines de découvrir la société mondiale d'information.

Interactive open access publishing and public peer review: The effectiveness of transparency and self-regulation in scientific quality assurance. [Édition interactive en libre accès et évaluation publique par les pairs: l'efficacité de la transparence et de l'autorégulation pour garantir la qualité scientifique.]

Ulrich Pöschl

IFLA Journal 36 (2010) No. 1. pp. 40-46

Les formes traditionnelles d'édition scientifique et d'évaluation par les pairs ne sont pas à la hauteur des exigences en matière de communication efficace et de garantie de la qualité dans l'univers scientifique contemporain qui est très diversifié et évolue rapidement. Elles doivent être complétées par des formes d'évaluation interactives et transparentes, des publications et des discussions ouvertes à la communauté scientifique et au public. Les avantages du libre accès, de l'évaluation publique par les pairs et des discussions interactives peuvent être combinés de façon efficace et flexible avec les atouts de l'édition traditionnelle et de l'évaluation par les pairs. Depuis 2001, les avantages et la viabilité de cette approche ont été clairement démontrés par le grand succès de la revue interactive en libre accès Atmospheric Chemistry and Physics (ACP, www.atmos-chem-phys.net) et par le nombre croissant de revues apparentées lancées par l'éditeur Copernicus (www.copernicus.org) et l'Union européenne des géosciences (EGU, www.egu.eu). Ces revues appliquent une méthode de publication et d'évaluation par les pairs en deux étapes, assortie d'une discussion publique interactive, ce qui résout avec efficacité le dilemme entre échange scientifique rapide et véritable garantie de qualité. Les mêmes concepts ou des concepts similaires ont aussi été récemment adoptés dans d'autres disciplines, notamment les sciences biologiques et l'économie. Il faut cependant noter que des approches alternatives dans lesquelles commentaire interactif et discussion publique ne s'accompagnent pas d'une évaluation formelle effectuée par des experts désignés, ont tendance à avoir moins de succès. Les principes, aspects fondamentaux et réalisations de l'édition interactive en libre accès (qualité et impact excellents, autorégulation efficace et faibles taux de rejet, moindre gaspillage et faibles coûts) sont esquissés et discutés dans cet article. De plus amples informations sont disponibles sur Internet: www.atmospheric-chemistry-and-physics.net/general_information/public_relations.html

Changing visions of parliamentary libraries: From the Enlightenment to Facebook. [Modification de l'optique des bibliothèques parlementaires: de l'âge des Lumières à Facebook.]

Iain Watt

IFLA Journal 36 (2010) No. 1. pp. 47-60

L'idéal à l'origine de la fondation des bibliothèques parlementaires était particulièrement rationnel : permettre aux parlementaires de prendre des décisions en disposant de toutes les informations nécessaires,

aidés en cela par la bibliothèque. Cet idéal s'affirmait comme un mythe nécessaire projetant une idée de modernité du Parlement et de la valeur des bibliothèques. Le discours standard de l'histoire des bibliothèques parlementaires – à savoir que l'évolution de l'optique répond aux besoins des parlementaires – est remis en question. En réalité, la bibliothèque ne remplit pas forcément ce rôle idéal et elle n'est en tout cas plus synonyme de modernité. Le mythe est devenu un handicap. Un modèle alternatif de travail d'information des parlementaires est proposé, basé sur le concept de rationalité limitée et en particulier sur les travaux de Gigerenzer portant sur un processus de décision 'rapide et simple'. Plutôt que de se concentrer sur la qualité des informations produites/fournies, les bibliothèques parlementaires devraient se concentrer sur la qualité des informations véritablement utilisées. Améliorer la facilité d'accès aux informations et s'adresser plus particulièrement aux parlementaires spécialisés peut avoir plus d'impact qu'améliorer de façon marginale la qualité des produits. Les bibliothèques parlementaires doivent aussi tenir compte de l'augmentation du personnel administratif soutenant les parlementaires et adapter leur marketing selon un modèle business-to-business. Se concentrer sur les compétences fondamentales et sur leur déploiement dans de nouveaux domaines des travaux parlementaires d'information est une vision pour l'avenir. L'article exprime les opinions personnelles de son auteur et non celles du Parlement européen.

Not just another portal, not just another digital library: A portrait of Europeana as an Application Program Interface. [Pas uniquement un portail de plus, Pas uniquement encore une bibliothèque numérique: Un portrait de Europeana comme Interface de programme d'application.]

Cesare Concordia, Stefan Gradmann et Sjoerd Siebinga

IFLA Journal 36 (2010) No. 1. pp. 61-69

Pour le grand public, Europeana représente surtout un portail qui montre beaucoup d'informations issues du patrimoine culturel. Même si cette idée n'est pas entièrement fautive, le principal objectif d'Europeana est davantage de construire une plateforme de services permettant aux utilisateurs et aux instituts culturels d'accéder à et de gérer un grand ensemble d'objets avec un contenu numérique ou numérisé par l'intermédiaire d'une Interface de programme d'application (IPA). L'article parle de quelques détails de l'ensemble du

volume du schéma de données, de la description d'IPA et de l'implémentation d'un portail Europeana. Il traite aussi de cas d'utilisation et de l'approche intellectuelle que les utilisateurs, plus précisément les instituts culturels, devront suivre pour exploiter au maximum les possibilités de la plateforme de services Europeana et parle aussi de risques inhérents. Les auteurs sont des acteurs clés du processus de spécification, développement et d'implémentation d'Europeana, qui est actuellement en cours.

Bridging between libraries and information and communication technologies for development. [Jeter des ponts entre les bibliothèques et les technologies de l'information et de la communication au service du développement.]

Rebecca Sears et Michael Crandall

IFLA Journal 36 (2010) No. 1 pp. 70-73

La Fédération internationale des associations de bibliothécaires (IFLA), la Fondation Bill & Melinda Gates (Global Libraries initiative ou Initiative mondiale pour les bibliothèques) et le groupe pour les changements technologiques et sociaux (TASCHA), de l'école d'information de l'Université de Washington, estiment que les disciplines des bibliothèques et des technologies de l'information et de la communication au service du développement sont parvenues à un point de leur évolution où chacune peut constituer une véritable valeur pour l'autre. Afin de jeter des ponts entre ces deux disciplines, ils ont organisé une série de réunions rassemblant les parties prenantes de chacune d'elle, afin de faire progresser les activités pouvant représenter des avantages substantiels pour les deux communautés. Les bibliothèques et les technologies de l'information et de la communication au service du développement ont intérêt à mettre à profit les technologies pour parvenir à réaliser leurs objectifs fondamentaux. Bien que leurs contextes historiques et leurs intentions soient très différents, il existe de nombreux domaines communs qui méritent d'être explorés comme pouvant faire l'objet d'efforts conjoints. Une étude à deux niveaux de ces disciplines est proposée; elle part des caractéristiques générales de chaque discipline comme contexte indispensable de réflexion sur les points de rencontre éventuels, et se termine en proposant d'explorer les possibilités de travail en commun à un niveau plus pratique. Les auteurs suggèrent d'étudier plus avant la possibilité de mener des projets dans les domaines des services aux utilisateurs, de la formation et des technologies.

Zusammenfassungen

New journal models and publishing perspectives in the evolving digital environment. [Neue Modelle für Zeitschriften und Perspektiven für das Verlagswesen in einer neuen virtuellen Umgebung.]

Maria Cassella und Licia Calvi

IFLA Journal 36 (2010) No. 1. pp. 7-15

Open Access in Kombination mit den Web 2.0 Networking Tools hat erhebliche Auswirkungen auf die Funktionen und Rahmenkonzepte der traditionellen Zeitschriften sowie auch auf die Rolle der Verlage. Die Inhalte sind heute verstärkt auch online aus digitalen Speichern verfügbar und im Web entsteht eine integrierte, miteinander verbundene und fachübergreifende Informationsumgebung - das Oldenburger Konzept verliert an Boden. Heute gelten Zeitschriften somit nicht mehr als primäre Nachschlagequelle der akademischen Forschung, was in der Vergangenheit insbesondere in den wissenschaftlichen, technischen und medizinischen Fächern der Fall war; vielmehr stehen nun die Artikel stark im Vordergrund. Daher entstehen neue Zeitschriftenmodelle. Im ersten Teil geht dieser Beitrag auf diese neuen experimentellen Zeitschriftenmodelle ein und bespricht beispielsweise Overlay Journals, Interjournals und Different Levels Journals. Im zweiten Teil geht es primär um die Rolle, die die kommerziellen Verlage in dieser virtuellen nahtlosen Schreibarena spielen könnten. Die Autoren sind der Auffassung, dass sich die Verlage viel stärker auf Zusatzleistungen für Autoren, Leser und Bibliotheken konzentrieren sollten, wie beispielsweise Navigationsdienste, Auffindungsdienste, Archivierungs- und Auswertungsdienste.

The Cataloging Cultural Objects experience: Codifying practice for the cultural heritage community. [Die Erfahrungen mit Cataloging Cultural Objects: Erschließungsregeln für die Kulturgut bewahrenden Institutionen.]

Erin Coburn, Elisa Lanzi, Elizabeth O'Keefe, Regine Stein und Ann Whiteside

IFLA Journal 36 (2010) No. 1. pp. 16-29

Um "Cataloging Cultural Objects: a Guide to Describing Cultural Works and Their Images (CCO)" ist seit der Veröffentlichung im Jahr 2003 ein Netz aus Erschließungsanweisungen entstanden. CCO ist ein Handbuch für die Beschreibung, Dokumentation und Katalogisierung von Kulturobjekten und ihrer visuellen Stellvertreter. Der Schwerpunkt von CCO liegt auf der Kunst und der Architektur, wozu, jedoch

nicht ausschließlich, Gemälde, Plastiken, Drucke, Handschriften, Fotografien, Bauten, Installationen und andere visuelle Medien gehören. CCO deckt außerdem viele andere Arten von Kulturobjekten, einschließlich archäologischer Stätten, Artefakte und funktionaler Objekte aus dem Bereich der materiellen Kultur ab.

Die vorliegende Arbeit untersucht den Einfluss von CCO und die Anwendung auf dem Gebiet der Katalogisierung für Museen und Bildarchive. Indem sie drei unterschiedliche Szenarien gleichzeitig betrachteten, haben die Autoren allgemeine Strategien für jeweils spezielle Anforderungen in jedem einzelnen der drei Bereiche herausgefunden. Die Demonstrationsprojekte beinhalten: 1. Die Entwicklung eines De-Facto-Standards für das Einbringen von Kultursammlungen und naturgeschichtlichen Sammlungen in Verbundkataloge und digitale Repositorien durch die Angleichung der „CDWA Lite“- und „museumdat XML“-Schemas. 2. Die Anwendung von CCO im Projekt „Society of Architectural Historians Architecture Resources Archives“ (SAHARA), einem kooperativ erstellten digitalen Fotoarchiv, das weltweit Architektur und Kulturlandschaften dokumentiert. Das SAHARA-Projekt hat eine Katalogisierungsmaske für die Anwendung durch Wissenschaftler und Bibliothekare entwickelt; und schließlich: 3. die Anwendung von CCO in Datensätzen für Kulturgut im Bibliotheksbereich ergänzend zu anderen Richtlinien.

Die sich daraus ergebende Katalogisierungspraxis führte zu einer beachtlichen Sammlung von Datensätzen innerhalb der Community der Museen und Bildarchive mit dem Ziel, eine Zugriffsumgebung für Bibliotheken, Museen und Archive zu schaffen. Die Autoren führen aus, wie die Entscheidungsfindung bei der Katalogisierung (zum Beispiel bezüglich unterschiedlicher Begriffsdefinitionen eines Werkes“) die Übereinstimmung der Datensätze in diesen Bereichen verdichten könnte.

Content development in an indigenous digital library: A case study in community participation. [Content-Entwicklung in einer einheimischen virtuellen Bibliothek: eine Fallstudie in Bezug auf Bürgerinitiative.]

Elizabeth Greyling und Siphon Zulu

IFLA Journal 36 (2010) No. 1. pp. 30-39

Afrika und afrikanische Bibliotheken sowie Informationszentren sind schlecht gerüstet, um einen sinnvollen Beitrag zur aktuellen globalen digitalen

wissensbasierten Wirtschaft leisten zu können. Der unzureichende lokale Web Content bremst das Interesse örtlicher Communities an den digitalen Ressourcen und steht der Entwicklung digitaler Fähigkeiten im Weg. Eine Bibliothek, die über Content mit lokaler Relevanz verfügt, ermutigt die Communities, die Bibliotheksdienste zu nutzen - besonders dann, wenn sie in die Entwicklung des Content mit einbezogen werden. Öffentliche Bibliotheken für ethnische Volksgruppen, deren Geschichte in schriftlichen, bildlichen und mündlichen Traditionen festgehalten ist, eignen sich hervorragend dazu, eine Plattform für das öffentliche Engagement bei der Sammlung und Weitergabe der indigenen Kenntnisse in den jeweiligen Communities anzubieten. Dieser Beitrag präsentiert eine Fallstudie in Bezug auf die Einbeziehung der Community bei der Entwicklung eines Content für eine digitale Bibliothek mit örtlichen indigenen Kenntnissen. Eine Beschreibung des Programms zeigt die Interaktion zwischen der Bibliothek, der Community und der verwendeten Technologie auf. Die Herausforderungen im Zusammenhang mit der Implementierung, die entsprechenden Ergebnisse und die damit gemachten Erfahrungen werden beleuchtet und die Vorteile für die Community unterstrichen. Mit der Bereitstellung eines kontextbasierten Online-Informationssdienstes für die örtlichen Communities gewährleisten die öffentlichen Bibliotheken in Afrika mithilfe der Informations- und Kommunikationstechnologie (Information and Communication Technology, ICT) des 21. Jahrhunderts den zukunftsorientierten Zugriff auf die kulturellen Ressourcen. Damit verbessern sich die Chancen für die Überwindung der digitalen Kluft und die afrikanischen Communities sichern sich ebenfalls den Zugang zur weltweiten Informationsgesellschaft.

Interactive open access publishing and public peer review: The effectiveness of transparency and self-regulation in scientific quality assurance. [Open Access Publishing und Public Peer Review: Die Effektivität der Transparenz und Selbstregulierung bei der wissenschaftlichen Qualitätssicherung.]

Ulrich Pöschl

IFLA Journal 36 (2010) No. 1. pp. 40-46

Die herkömmlichen Publikationswege zur Veröffentlichung wissenschaftlicher Texte mit entsprechenden Begutachtungsverfahren (Peer Reviews) genügen den Anforderungen einer effizienten Kommunikation und Qualitätssicherung in der heutigen vielgestaltigen Welt der Wissenschaft mit ihrer sehr schnellen Weiterentwicklung nicht mehr. Zusätzlich dazu sind jedoch interaktive und transparente Formen der Rezension,

der Publikation und der Diskussion erforderlich, die dem wissenschaftlichen Umfeld und der Öffentlichkeit zugänglich sind. Die Vorteile des Open Access, des Public Peer Review und der interaktiven Diskussion lassen sich effizient und flexibel mit den Stärken der traditionellen Veröffentlichung und des Peer Review kombinieren. Seit 2001 zeigen sich die Vorteile und die Zukunftsfähigkeit dieser Strategie deutlich an dem sehr erfolgreichen interaktiven Open Access - Journal „Atmospheric Chemistry and Physics“ (ACP, www.atmos-chem-phys.net) sowie einer wachsenden Zahl verwandter Zeitschriften, die der Copernicus-Verlag (www.copernicus.org) und die European Geosciences Union (EGU, www.egu.eu) herausgeben. Diese Zeitschriften stützen sich auf ein zweistufiges Publikationssprinzip mit einem Peer Review in Kombination mit einer interaktiven öffentlichen Diskussion und lösen damit effektiv das Dilemma zwischen dem schnellen wissenschaftlichen Informationsaustausch und einer umfassenden Qualitätssicherung. Dieses Konzept oder ähnliche Konzepte sind kürzlich auch in anderen Fachrichtungen eingeführt worden, einschließlich der Biowissenschaften und der Wirtschaftswissenschaften. In diesem Zusammenhang ist allerdings darauf hinzuweisen, dass alternative Verfahren, wobei die interaktive Begutachtung und die öffentliche Diskussion nicht ganz in das formelle Peer Review durch die hierfür ernannten Rezensenten integriert sind, eher geringeren Erfolg zeigen. Die Prinzipien, die Schlüsselaspekte und Erfolge des interaktiven Open Access Publishing (Spitzenqualität und Impact-Faktor, effiziente Selbstregulierung und geringe Rückweisungsquoten, wenig Ausschuss und niedrige Kosten) werden nachstehend erläutert und besprochen. Weitere Informationen sind über das Internet verfügbar: www.atmospheric-chemistry-and-physics.net/general_information/public_relations.html

Changing visions of parliamentary libraries: From the Enlightenment to Facebook. [Parlamentsbibliotheken im Umbruch: von der Aufklärung bis zum Facebook.]

Iain Watt

IFLA Journal 36 (2010) No. 1. pp. 47-60

Die Gründungsidee der Parlamentsbibliotheken basiert auf einer schier grenzenlosen Rationalität - demgemäß sollen die Mitglieder mit Unterstützung der Bibliothek ihre Entscheidungen auf der Grundlage umfassender Informationen treffen. Dies wird als notwendiger Mythos eingestuft, der die Modernität des Parlaments und den Wert der Bibliothek projiziert. Hinterfragt wird hier die standardmäßige Annahme in Bezug auf die Geschichte der Parlamentsbibliotheken

– dass sich die Perspektiven infolge der Bedürfnisse der Mitglieder ändern. In Wirklichkeit jedoch erfüllt die Bibliothek ihre idealisierte Rolle nicht unbedingt und bringt auf jeden Fall nicht länger die Modernität zum Ausdruck. Der Mythos ist damit zur Verpflichtung geworden. Dieser Artikel schlägt ein alternatives Paradigma für die Informationsarbeit der Mitglieder vor, das sich auf das Konzept der begrenzten Rationalität und insbesondere auf die Arbeit von Gigerenzer über „schnelle und effiziente“ Entscheidungen stützt. Statt sich auf die Qualität der erstellten / übermittelten Informationen zu konzentrieren, sollten die Parlamentsbibliotheken ihr Augenmerk schwerpunktmäßig auf die Qualität der tatsächlich verwendeten Informationen richten. Die Verbesserung und Erleichterung des Zugriffs auf die Informationen und die Konzentration auf die Spezialisten unter den Mitgliedern können unter Umständen mehr Wirkung zeigen als die schrittweise Verbesserung der Produktqualität. Darüber hinaus müssen die Parlamentsbibliotheken auch die Entwicklung der dort tätigen Menschen berücksichtigen und ihr Marketing nach einem Business-to-Business - Modell ausrichten. Der Schwerpunkt auf den Kernkompetenzen und ihr Einsatz in neuen Bereichen der parlamentarischen Informationsarbeit ist eine Zukunftsvision. Dieser Beitrag legt die persönliche Auffassung des Autors dar, nicht jedoch den Blickwinkel des Europaparlaments.

Not just another portal, not just another digital library: A portrait of Europeana as an Application Program Interface. [Nicht nur ein weiteres Portal, nicht nur eine weitere digitale Bibliothek: Ein Porträt der Europeana als Application Program Interface.]

Cesare Concordia, Stefan Gradmann und Sjoerd Siebinga

IFLA Journal 36 (2010) No. 1. pp. 61-69

In den Augen der allgemeinen Öffentlichkeit ist die Europeana in erster Linie ein Portal, das eine Vielzahl von Informationen über das Kulturerbe enthält. Obwohl das nicht ganz falsch ist, zielt die Europeana doch im Wesentlichen darauf ab, eine Open Services Platform (eine offene Serviceplattform) zu bauen, mit der die Nutzer und die Institutionen, die das Kulturgut bewahren, eine umfassende Sammlung stellvertretender Objekte, die einen digitalen und digitalisierten Content repräsentieren, über eine Application Program Interface (API) (eine Schnittstelle für Anwenderprogramme) abrufen und verwalten können. Dieser Beitrag befasst sich mit einigen Details im

Zusammenhang mit dem allgemeinen Data Space Schema, der API-Beschreibung sowie der Implementierung des Europeana-Portals; zudem werden hier einige Anwendungsfälle zusammen mit den Denkmustern beschrieben, die die Benutzer, insbesondere die kulturellen Institutionen, benötigen, um das Potenzial der Europeana Services Platform im vollen Umfang nutzen zu können; außerdem werden die damit verbundenen Risiken besprochen. Die Autoren sind Hauptakteure im Zusammenhang mit der aktuellen Spezifikation, Entwicklung und Implementierung der Europeana.

Bridging between libraries and information and communication technologies for development. [Weiterentwicklung durch Brückenschlag zwischen den Bibliotheken und den Informations- und Kommunikationstechnologien.]

Rebecca Sears und Michael Crandall

IFLA-Journal 36 (2010) Nr. 1. S. 70-73

Die International Federation of Library Associations and Institutions (IFLA), die Bill & Melinda Gates Foundation (weltweite Bibliothekeninitiative) und die Technology & Social Change Group (TASCHA) an der Information School der Universität Washington sind der Auffassung, dass das Bibliothekswesen und die ICTD einen Punkt in ihrer Entwicklung erreicht haben, wo beide Sektoren für den jeweils anderen Fachbereich einen signifikanten Wert darstellen können. Daher wurden eine Reihe von „Brücken“-Versammlungen organisiert, um interessierte Interessenvertreter aus beiden Fachrichtungen zusammenzubringen und Tätigkeiten zu fördern, die konkrete Vorteile für die Beteiligten aus beiden Bereichen mit sich bringen. Sowohl die Bibliotheken als auch die ICTD sind an der Nutzung der Technologie zum Erreichen ihrer wichtigen Ziele interessiert. Obwohl ihre Hintergründe und Absichten kontextuell sehr unterschiedlich sind, gibt es doch viele Gemeinsamkeiten, wobei eine Zusammenarbeit hilfreich sein könnte. Vorgeschlagen wird hier eine Betrachtung der beiden Fachbereiche auf zwei Ebenen, beginnend mit den jeweiligen allgemeinen Charakteristika, wobei die Merkmale beider Bereiche als notwendiger Kontext für die Betrachtung möglicher Überschneidungen im Vordergrund stehen. Abschließend wird ein Vorschlag zur Erkundung potenzieller Zusammenarbeitsbereiche auf einer praktischeren Ebene unterbreitet. Mögliche Projekte in den Bereichen User Services, Weiterbildung und Technologie bedürfen nach Aussage der Autoren der genaueren Untersuchung.

Resúmenes

New journal models and publishing perspectives in the evolving digital environment. [Nuevos modelos y perspectivas de edición de publicaciones en el cambiante mundo digital.]

Maria Cassella y Licia Calvi

IFLA Journal 36 (2010) No. 1. pp. 7-15

El acceso abierto junto con las herramientas de trabajo en red de Web 2.0 están cambiando rápidamente las funciones y la estructura de los diarios tradicionales, así como la función de los editores. Conforme aumenta la disponibilidad de los contenidos en Internet mediante archivos digitales y en la web, también evoluciona el contexto de una información multidisciplinar y se produce la desintegración del modelo Oldenburg: los diarios han dejado de ser el principal elemento de referencia de los trabajos académicos como solía ocurrir en las disciplinas científicas, técnicas y médicas, y la atención de los académicos se centra en gran medida en los artículos. Por tanto, asistimos a la evolución de nuevos modelos de diarios. En la primera parte de este documento se abordan estos nuevos modelos experimentales de diarios: como los recortes superpuestos, *interjournals* y diarios de distintos niveles. En la segunda parte se explica la función que los editores comerciales podrían desempeñar en este campo de información escrita sin barreras. Las autoras consideran que los editores deberían centrarse mucho más en los servicios de valor añadido para los autores, lectores y bibliotecas, ofreciendo, por ejemplo, servicios de navegación, búsqueda, archivo y evaluación.

The Cataloguing Cultural Objects experience: Codifying practice for the cultural heritage community. [La experiencia con Cataloguing Cultural Objects: codificando la práctica para la comunidad del Patrimonio Cultural.]

Erin Coburn, Elisa Lanzi, Elizabeth O'Keefe, Regine Stein y Ann Whiteside

IFLA Journal 36 (2010) No. 1. pp. 16-29

Desde la publicación en 2003 de *Cataloguing Cultural Objects: a Guide to Describing Cultural Works and Their Images* (CCO) [Catalogando Objetos Culturales: una guía para describir obras culturales y sus imágenes], se ha formado un corpus de práctica catalográfica a su alrededor. CCO es un manual para describir, documentar y catalogar obras culturales y sus representaciones visuales. El objetivo principal de CCO son el arte y la arquitectura, incluyendo, pero no limitado, a pinturas, esculturas, grabados, manuscritos,

fotografías, obras arquitectónicas, instalaciones y otros medios visuales. CCO también abarca otros muchos tipos de obras culturales, incluyendo yacimientos arqueológicos, objetos manufacturados, y objetos funcionales dentro del ámbito de la cultura material.

Date submitted: 29/06/2009 Este artículo examina la influencia de CCO y su implementación catalográfica en museos y bibliotecas. Al reunir 3 escenarios distintos, los autores han identificado estrategias comunes aplicadas a la problemática especial de cada uno. Estos proyectos incluyen: (1) el desarrollo de un estándar de facto para las aportaciones a catálogos colectivos y repositorios digitales de colecciones de historia natural y cultural., mediante la armonización de los esquemas XML CDWA Lite y museumdat; (2) el uso de CCO en el proyecto del Archivo de Recursos de Arquitectura de la Sociedad de Historiadores de la Arquitectura (SAHARA), un archivo online compartido de fotografías que documentan emplazamientos arquitectónicos y culturales de todo el mundo, y (3) la aplicación de CCO junto con otros estándares en registros para obras culturales en un entorno bibliotecario. Esta práctica catalográfica emergente con CCO ha dado como resultado un número significativo de registros de museos y bibliotecas digitales destinados a entornos integrados BAM (Bibliotecas/Archivos/Museos). Los autores reflexionan sobre cómo las decisiones tomadas en la catalogación (por ejemplo, los diferentes conceptos de "obra") pueden tener impacto sobre la convergencia de los registros en estos entornos.

Content development in an indigenous digital library: A case study in community participation. [Desarrollo de contenidos en una biblioteca digital indígena: caso práctico de participación comunitaria.]

Elizabeth Greyling y Siphon Zulu

IFLA Journal 36 (2010) No. 1. pp. 30-39

Las bibliotecas y centros de información africanos y asiáticos no cuentan con los recursos suficientes para contribuir de manera significativa a la economía mundial del conocimiento digital. La escasez de contenidos locales en la Web supone un retraso en la adaptación de las comunidades locales a los recursos digitales e impide el desarrollo de competencias digitales. Una biblioteca que posea contenidos de interés local fomentará el uso de sus servicios entre la comunidad, especialmente si se permite a sus miembros participar en el desarrollo de dichos contenidos. Las bibliotecas públicas que prestan servicios a las comunidades

étnicas cuya historia se transmite mediante la tradición escrita, pictórica y oral están en una posición idónea para ofrecer una plataforma que permita la participación del público en la recopilación de conocimientos y su difusión a las comunidades en las que se encuentran. En este documento se ofrece un caso práctico de la participación de una comunidad en el desarrollo de contenidos para una biblioteca digital de conocimientos indígenas. En la descripción del programa se destaca la interacción entre la biblioteca, la comunidad y la tecnología empleada. También se explican los problemas para la puesta en marcha, los resultados y las lecciones aprendidas, y se señalan las ventajas para la comunidad. Al ofrecer un servicio de información online contextualizado a las comunidades locales, las bibliotecas públicas de África garantizarán un acceso a los recursos del patrimonio cultural mediante las tecnologías de información y comunicación del siglo XXI. Las posibilidades de reducir la brecha digital aumentarán y las comunidades africanas podrán entrar en la sociedad de la información mundial.

Interactive open access publishing and public peer review: The effectiveness of transparency and self-regulation in scientific quality assurance. [Edición interactiva de acceso abierto y revisión pública de pares: la efectividad de la transparencia y la autorregulación en el control de calidad de los trabajos científicos.]

Ulrich Pöschl

IFLA Journal 36 (2010) No. 1. pp. 40-46

Las formas tradicionales de edición científica y la revisión de pares no pueden hacer frente a la demanda de una comunicación rápida y de control de calidad en el mundo científico actual, caracterizado por su gran diversidad y su rápida evolución. Dichos métodos se deben complementar con fórmulas de revisión, publicación y debate interactivas y transparentes, que estén abiertas a la comunidad científica y al público en general. Las ventajas del acceso abierto, la revisión pública de pares y el debate interactivo pueden combinarse de forma rápida y flexible con las virtudes de la publicación tradicional y la revisión de pares. Desde 2001, las ventajas y la viabilidad de este método han quedado claramente demostrados con la publicación interactiva de acceso abierto Atmospheric Chemistry and Physics (ACP, www.atmos-chem-phys.net), que ha cosechado un enorme éxito, así como con un creciente número de publicaciones similares lanzadas por la editorial Copernicus (www.copernicus.org) y la Unión Europea de Geociencia (EGU, www.egu.eu). Estas publicaciones utilizan un proceso de dos fases que se compone de la publicación y la revisión de

pares junto con el debate público interactivo, lo que resuelve correctamente el dilema entre el intercambio rápido de datos científicos y un exhaustivo control de calidad. Otras disciplinas, como ciencias de la vida y economía, han adoptado recientemente estos mismos conceptos, u otros similares. No obstante, hay que tener en cuenta que los métodos alternativos que no integran completamente los comentarios y el debate público interactivos con una revisión formal de pares por parte de los evaluadores designados suelen tener menos éxito. En el documento se señalan y explican los principios, los aspectos clave y los logros de la edición interactiva de acceso abierto (alta calidad y elevada repercusión, correcta autorregulación y reducidas tasas de rechazo, residuos y costes bajos). Para más información, consúltese la página: www.atmospheric-chemistry-and-physics.net/general_information/public_relations.html

Changing visions of parliamentary libraries: from the Enlightenment to Facebook. [Distintos puntos de vistas de las bibliotecas parlamentarias: de la Ilustración a Facebook.]

Iain Watt

IFLA Journal 36 (2010) No. 1. pp. 47-60

El ideal con el que se constituyeron las bibliotecas parlamentarias es de una racionalidad ilimitada: la toma de decisiones por parte de los diputados utilizando para ello información completa con la ayuda de la biblioteca. Esta idea está considerada como un mito necesario que refleja la modernidad del Parlamento y el valor de la biblioteca. Se cuestiona el discurso habitual de la historia de las bibliotecas parlamentarias: que los distintos puntos de vistas responden a las necesidades de los diputados. En realidad, es posible que la biblioteca no cumpla su función idealizada y, en ningún caso, es reflejo de modernidad. El mito se ha convertido en una obligación. Se propone un paradigma alternativo del trabajo de información de los diputados basado en el concepto de racionalidad limitada y, en concreto, en el trabajo de Gigerenzer sobre la toma de decisiones "rápida y frugal". En vez de centrarse en la calidad de la información generada y suministrada, las bibliotecas parlamentarias deberían prestar mayor atención a la calidad de la información que se utiliza realmente. Mejorar el acceso a la información y dirigirse a diputados cualificados podría tener más repercusión que la mejora gradual de la calidad del producto. Las bibliotecas parlamentarias también deben tener en cuenta la ampliación del personal de apoyo a los diputados y adaptar su marketing a un modelo *business-to-business*. Una perspectiva de futuro sería centrarse en las competencias esenciales y su aplicación en nuevos ámbitos de trabajo de

информación parlamentaria. El documento refleja los puntos de vista personales del orador y no los del Parlamento Europeo.

Not just another portal, not just another digital library: A portrait of Europeana as an Application Program Interface. [No es otro Portal más, no es otra Biblioteca digital más: Retrato de Europeana como una Interfaz de programación de aplicaciones.]

Cesare Concordia, Stefan Gradmann y Sjoerd Siebinga

IFLA Journal 36 (2010) No. 1, pp. 61-69

El público general percibe básicamente a Europeana como un portal donde se exhibe una gran cantidad de información sobre patrimonio cultural. A pesar de que esta percepción no es del todo errónea, el principal objetivo de Europeana consiste en construir una plataforma de servicios abiertos que permita a los usuarios y a las instituciones culturales acceder y gestionar una amplia colección de objetos sustitutivos con contenido digital y digitalizado a través de una Interfaz de programación de aplicaciones (API). El documento trata algunos detalles del esquema global de espacio para datos, de la descripción de la API y de la implementación del Portal Europeana. Asimismo recoge casos de uso y el enfoque mental que los usuarios, especialmente las instituciones culturales, deben adoptar para aprovechar todo el potencial que ofrece la plataforma de servicios Europeana, además de un debate sobre los riesgos derivados. Los autores constituyen agentes clave en el proceso de especificación, desarrollo e implementación que se está llevando a cabo actualmente.

Bridging between libraries and information and communication technologies for development. [Salvar las distancias entre las bibliotecas y las tecnologías de la información y la comunicación para el desarrollo.]

Rebecca Sears y Michael Crandall

IFLA Journal 36 (2010) No. 1 pp. 70-73

La Federación Internacional de Asociaciones e Instituciones Bibliotecarias (IFLA), la Fundación Bill y Melinda Gates (iniciativa de Bibliotecas Mundiales), y el Grupo para el Cambio Tecnológico y Social (TASCHA) de la Escuela de Información de la Universidad de Washington consideran que los campos de la biblioteconomía y las tecnologías de la información y la comunicación para el desarrollo (ICTD) se encuentran en un momento de su evolución en el que cada uno podría aportar ventajas significativas al otro. Estas entidades han organizado una serie de reuniones de “acercamiento” entre las partes interesadas en ambos campos para promover actividades con las que se obtengan ventajas tangibles para las dos comunidades. Las bibliotecas y las ICTD comparten su interés por el uso de la tecnología para alcanzar sus objetivos últimos. Aunque ambas disciplinas tienen antecedentes e intenciones diferentes, también comparten muchos aspectos que merece la pena explorar para encontrar posibles iniciativas de colaboración. Se propone una visión a dos niveles de ambos cambios, comenzando con las características generales que determinan el carácter de cada campo como contexto necesario para pensar en posibles puntos en común, y terminando con una propuesta para estudiar posibles terrenos de colaboración a un nivel más práctico. Algunas sugerencias para una investigación ulterior son los proyectos en ámbitos como los servicios al usuario, la formación y la tecnología.

Рефераты статей

New journal models and publishing perspectives in the evolving digital environment. [Nuevas modelos de revistas y perspectivas de la industria editorial en el entorno digital en evolución.]

Мария Касселла и Лисия Кальви

IFLA Journal 36 (2010) No. 1. pp. 7-15

Открытый доступ в комбинации с интерфейсами Web 2.0 стремительно меняет функции и рамки традиционных журналов и роль издателей. Поскольку контент становится все более доступным в режиме онлайн в цифровых репозиториях и в Интернете, развивается интегрированная, взаимосвязанная, междисциплинарная информ

ационная среда, а модель Ольденбурга распадается: журнал уже больше не является основной отсылочной единицей научных работ, как это было раньше в основном в отношении научных, технических и медицинских дисциплин, а внимание ученых четко фокусируется на уровне статей. Таким образом возникают новые модели журналов. В первой части данной статьи обсуждаются эти новые экспериментальные журнальные модели, т.е. оверлейные журналы, интержурналы и журналы различных уровней. Во второй части внимание читателей привлекается к роли, которую могут сыграть коммерческие издатели на этой органичной писательской цифровой арене.

Авторы считают, что издатели должны больше концентрироваться на таких услугах с добавленной стоимостью для авторов, читателей и библиотекарей, как навигационные услуги, изыскательские услуги, услуги по архивированию и оценке.

The Cataloging Cultural Objects experience: Codifying practice for the cultural heritage community. [Опыт работы с «Каталогизацией объектов культуры»: методика кодификации для сообщества, работающего с культурным наследием.]

Эрин Кобэрн, Элайза Лэнзи, Элизабет О'Киифе, Риджайн Стейн и Энн Уайтсайд
IFLA Journal 36 (2010) No. 1. pp. 16-29

С момента выхода в 2003 году издания «Каталогизация объектов культуры: руководство по описанию объектов культуры и их образов» *Cataloguing Cultural Objects: a Guide to Describing Cultural Works and Their Images* (ССО) накоплен большой практический опыт. ССО – это учебник по описанию, учёту и каталогизации объектов культуры и их визуальных суррогатов. В первую очередь ССО концентрирует внимание на искусстве и архитектуре, включая живопись, скульптуру, гравюры, рукописи, фотографии, постройки, инсталляции и другие визуальные средства, но не ограничивается ими. ССО также охватывает многие другие типы произведений культуры, включая места археологических раскопок, артефакты и функциональные объекты, относящиеся к массиву материальной культуры. Настоящий доклад изучает влияние ССО и его внедрения в установки каталогизации для сообщества музеев и библиотек изобразительных материалов. Одновременно расписывая три различных сценария, авторы определили в каждом из них общие стратегии решения частных проблем. Демонстрационные проекты включают в себя: 1. разработку фактического стандарта поставки собраний произведений культуры или природных материалов в сводные каталоги или электронные хранилища путём гармонизации XML схем CDWA Lite и museumdat. 2. использование ССО в проекте «Архив архитектурных ресурсов» Общества историков архитектуры (SAHARA), совместном архиве фотографий, запечатлевших архитектурные и культурные ландшафты всего мира. Проект SAHARA разработал шаблон каталогизации, который может быть использован учёными и библиотекарями. 3. применение ССО наряду с другими руководствами в записях для произведений культуры в условиях библиотек. Результатом появления методики

«каталогизации по ССО» стал значительный массив записей, направленных сообществом музеев и библиотек изобразительных материалов в среды интегрированного доступа LAM (библиотеки-архивы-музеи). Авторы обсуждают то, как принятие каталогизационных решений (различные концепции «произведения») могут влиять на конвергенцию записей в этих средах.

Content development in an indigenous digital library: A case study in community participation. [Развитие контента в цифровой библиотеке для коренных народов: исследование проблемы участия населения.]

Элизабет Грейлинг и Сифо Зулу
IFLA Journal 36 (2010) No. 1. pp. 30-39

Африка и африканские библиотеки и информационные центры слишком плохо оборудованы, чтобы вносить какой-либо значимый вклад в современную глобализированную экономику, основанную на цифровой передаче знаний. Неразвитый местный контент в Интернете тормозит заинтересованность местного населения в распространении цифровых ресурсов и сдерживает развитие цифровых навыков. Библиотека, которая предложит значимый для местного населения контент, подстегнет его к использованию библиотечных услуг, особенно если население будет иметь возможность участвовать в расширении этого контента. Публичные библиотеки, обслуживающие этнические сообщества, которые исторически исповедуют письменные, живописные и устные традиции, имеют хорошую возможность обеспечить платформу для общественного вовлечения в аккумуляцию и распространение местных знаний в обслуживаемых ими сообществах. Данная статья предлагает исследование проблемы участия населения в разработке контента для цифровой библиотеки, специализирующейся на сохранении местных знаний. Описание данной программы подчеркивает взаимосвязь между библиотекой, местным сообществом и используемыми технологиями. Обсуждаются проблемные вопросы имплементации, результаты и извлеченные уроки, указывается на преимущества для местного сообщества. Обеспечивая для местного сообщества онлайн-информационные услуги, основанные на контексте, публичные библиотеки в Африке будут гарантированно предоставлять ориентированный на будущее доступ к ресурсам культурного наследия посредством информационно-коммуникационных технологий (ICT) 21-го века. Таким образом будет усиливаться потенциал

противодействия «цифровому разрыву», а африканские сообщества будут приобщаться к преимуществам глобального информационного общества.

Interactive open access publishing and public peer review : The effectiveness of transparency and self-regulation in scientific quality assurance. [Интерактивная публицистика в режиме открытого доступа и публичное коллегиальное рецензирование: эффективность прозрачности и саморегулирования в обеспечении качества научных исследований.]

Ульрих Пёшль

IFLA Journal 36 (2010) No. 1. pp. 40-46

Традиционные формы научной публицистики и рецензирования коллегами не отвечают потребностям эффективной коммуникации и обеспечения качества в сегодняшнем весьма многообразном и стремительно развивающемся мире науки. Они должны быть дополнены интерактивными и прозрачными формами рецензирования, публикации и обсуждения, открытыми для научного сообщества и для широкой публики. Преимущества открытого доступа, публичного коллегиального рецензирования и интерактивного обсуждения могут быть эффективно и гибко совмещены с сильными сторонами традиционной публицистики и рецензирования коллегами. Начиная с 2001 года, преимущества и жизнеспособность этого подхода отчетливо демонстрируются на примере весьма удачного интерактивного журнала открытого доступа «Химия и физика атмосферы» (АСР, www.atmoschem-phys.net), а также растущего числа родственных журналов, запущенных издателем *Copernicus* (www.copernicus.org) и Европейским союзом наук о земле (EGU, www.egu.eu). Эти журналы практикуют двухступенчатый процесс публикации и рецензирования коллегами, совмещенный с интерактивным публичным обсуждением, что эффективно разрешает дилемму между быстрым научным обменом и скрупулезным обеспечением качества. Такая же или подобная концепция недавно также была принята и в других дисциплинах, включая биологические и экономические науки. Отмечается, однако, тенденция того, что альтернативные подходы, при которых интерактивные комментарии и публичные обсуждения не полностью интегрированы с формальным рецензированием назначенными рецензентами, являются менее успешными. Ниже описываются и обсуждаются принципы,

ключевые аспекты и достижения интерактивной публицистики в режиме открытого доступа (высокое качество и долгосрочное воздействие, эффективное саморегулирование и низкий процент отбраковки, малая отходность и низкая затратность). Более подробная информация доступна в Интернете по адресу: www.atmospheric-chemistry-and-physics.net/general_information/public_relations.html

Changing visions of parliamentary libraries: From the Enlightenment to Facebook. [Изменя видение парламентских библиотек: от Просвещения до социальной сети Facebook.]

Иэн Ватт

IFLA Journal 36 (2010) No. 1. pp. 47-60

Идея учреждения парламентских библиотек была проникнута идеалом неограниченной рациональности: при принятии решений парламентарии пользуются всей полнотой информации, предоставляемой при помощи библиотек. Это расценивается как необходимый миф, демонстрирующий современность парламента и ценность библиотек. Оспаривается стандартное изложение истории парламентской библиотеки – что якобы изменение видения отвечает запросам парламентариев. В реальности, библиотека может не выполнять свою идеализированную роль, и в любом случае она больше не является признаком новизны. Этот миф стал обязательством. Предлагается альтернативная парадигма информационной работы парламентариев, основанная на концепции ограниченной рациональности и, в особенности, на работе Г.Гигерензера о принятии решений по принципу «быстро и дешево». Вместо того чтобы фокусировать внимание на качестве выработанной/предоставленной информации, парламентские библиотеки должны сконцентрироваться на качестве действительно используемой информации. Улучшение простоты доступа к информации и нацеленность на парламентариев-специалистов может иметь большее воздействие, чем небольшие постепенные усовершенствования качества продукта. Парламентские библиотеки должны также принять во внимание увеличение числа депутатских помощников и адаптировать свои маркетинговые стратегии к модели бизнес-бизнес. Одной из перспектив на будущее является фокусировка на основных компетенциях и их развертывание в новых областях парламентской информационной работы. В статье представлены личные взгляды спикера и не отражается позиция Европейского парламента.

Not just another portal, not just another digital library: A portrait of Europeana as an Application Program Interface. [Не просто еще один портал, не просто еще одна цифровая библиотека: портрет портала Europeana как интерфейса для прикладных программ.]

Чезаре Конкордиа, Стефан Грэдман и Сьёрд Сиебинга

IFLA Journal 36 (2010) No. 1. pp. 61-69

Europeana в восприятии широкой публики – это в первую очередь портал, предоставляющий большой объем информации по культурному наследию. И хотя такое восприятие не полностью лишено смысла, все же основная цель портала Europeana – это скорее выстраивание открытой платформы услуг, позволяющей пользователям и учреждениям культуры получать доступ и управлять большими коллекциями заменителей объектов, представляющих цифровой и оцифрованный контент, посредством интерфейса для прикладных программ (API). В статье приводятся некоторые детали обобщенной схемы пространства данных, описания API и ввода в действие портала Europeana; в ней также обсуждаются сценарии использования и тот интеллектуальный подход, который должны применить пользователи, в особенности учреждения культуры, для наиболее полного использования потенциала платформы услуг Europeana наряду с обсуждением сопутствующих рисков. Авторы являются ключевыми участниками происходящего в настоящее время процесса уточнения функциональных требований, усовершенствования и ввода в действие портала Europeana.

Bridging between libraries and information and communication technologies for development. [Наведение мостов между библиотеками и

информационно-коммуникационными технологиями для целей развития.]

Ребекка Сиэрс и Майкл Крэндэлл

IFLA Journal 36 (2010) No. 1 pp. 70-73

Международная федерация библиотечных ассоциаций и институтов (ИФЛА), Фонд Билла и Мелинды Гейтс (Глобальная библиотечная инициатива) и Группа по вопросам технологий и изменений в обществе (TASCHA) при Школе информатики Вашингтонского университета полагают, что библиотечное дело и сфера ICTD (информационно-коммуникационные технологии для целей развития) находятся на той стадии своего развития, когда они могли бы оказаться в значительной мере полезными друг для друга. Они организовали серию мероприятий по "налаживанию контактов" с участием заинтересованных организаций и лиц из указанных областей с целью продвижения деятельности, которая могла бы принести ощутимую взаимную выгоду. Библиотеки и ICTD разделяют интерес к использованию технологий для достижения своих конечных целей. В то время как контекст, в котором они развиваются, имеет различное происхождение и обусловлен различными намерениями, существует множество сфер общего интереса, достойных изучения в рамках возможных совместных усилий. Предлагается двухуровневый подход к оценке данных областей, начиная с общих характеристик, которые определяют сущность этих областей с точки зрения необходимого контекста для размышления над возможными линиями пересечения, и заканчивая предложением об изучении потенциальных сфер для совместной работы на более практическом уровне. В качестве предложений для дальнейшего исследования рассматриваются возможные проекты в области обслуживания пользователей, обучения и технологий.

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