The Importance of National Bibliographies in the Digital Age

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Abstract

Technological developments are introducing both challenges and opportunities for the future production of national bibliographies. There are new complex issues which must be addressed collectively by national bibliographic agencies. As an international community, we must consider new methods and models for the on-going provision of authoritative data in national bibliographies, which continue to play an essential role in the control of and access to each country's published heritage.

THE IMPORTANCE OF NATIONAL BIBLIOGRAPHIES IN THE DIGITAL AGE

The Context

The concept of Universal Bibliographic Control first articulated in the 1970s by IFLA is rarely heard now, but nevertheless continues to underpin the international and national organization of the creation of bibliographic data which has its manifestation in national bibliographies. The existing highly structured, distributed international model for organizing bibliographic data creation and dissemination has been functioning more or less successfully for decades. However, with the change in scale of publishing brought about by digital publishing and digitization, and the emerging role of the Web in bringing

digital information directly to consumers and citizens, the question arises: is this model of producing national bibliographies sustainable?

How useful can national bibliographies be in a context of increasing demands for direct access to the documents by the new breed of information users? How can they deal with the "evanescence and mutability"[1] of electronic documents growing at an exponential rate and seemingly without any national affiliation? What role can national bibliographies play in reflecting the current democratization of publishing production which has been made possible by the Web?

Consider the broader social scope of developments in technology in recent years:

Each year, Beloit College in the United States produces a "mindset list"[2] to assist faculty in understanding the wider social context in which the incoming class of students has been raised. For example, for the current cohort of undergraduate students, it notes that:
- They have never gotten excited over a telegram, a long distance call, or a fax;
- "Ctrl + Alt + Del" is as basic as "ABC";
- Computers have always fit in their backpacks;
- Bar codes have always been on everything, from library cards to retail items;
- They are wireless, yet always connected;
- Text messaging is their email; and
- "Google" has always been a verb.

A video presentation entitled "Shift Happens"[3], available on YouTube, developed by educators in the United States to stimulate discussion about preparing students for the digital future, makes the following observations:
- More than 50% of today's 21 year olds have created web content.
- If the current number of MySpace users formed a country, it would be the 8th largest in the world.
- The past two decades have witnessed a phenomenal increase in web connectivity. The number of internet hosts in:[4]
  - 1984 = 1 thousand
  - 1992 = 1 million
  - 2006 = over 400 million
- In April 2007, 3.7 billion Google searches were performed.[5]
  - and on 1 August 2007, a search on "Harry Potter" alone produced 187 million hits!

This gives some indication of the types of change in communications and technology that have taken place in the past two decades. And in the realm of information access and control, the changes have been equally phenomenal. Major reference works appear only online; it is becoming increasingly difficult to find national bibliographies on CD-Rom, never mind on microfiche or in print; most electronic publications are searchable in full-text; the publishing world is shrinking through consolidation and mergers, yet self-publishers are growing in numbers; the content strategy of Google Scholar has sparked fierce debate while continuing to attract the collections of major libraries… the list goes

on. In this constantly shifting landscape, how do national bibliographies, whose relevance and importance, production and use, were more obvious in the age of print, continue to play a vital role?

To evaluate the importance of national bibliographies in today's information age, it is important to revisit the basic principles which have constituted its traditional strengths and examine how they hold up in this new environment.

Status of national bibliographies

But, first, I believe it would be a useful exercise to provide a brief overview of the development of national bibliographies in the international context.

The concept of national bibliography, as we know it today, was developed in the first half of the 20th century and was enunciated clearly at the first conference on bibliographic services organized by UNESCO in Paris in November 1950.[6] The major achievement of this conference involved recommendations promoting the creation of national bibliographic services and national bibliographies. In 1977, IFLA and UNESCO organized an International Congress on National Bibliographies which affirmed the acceptance of the concept of Universal Bibliographic Control (UBC) and provided guidelines to support national bibliographic agencies in their work to create standardized national bibliographies.[7] Twenty-one years later, the International Conference on National Bibliographic Services (ICNBS) was held in Copenhagen, under the auspices of IFLA, the Danish Royal Library, the Danish Royal School of Library and Information Science and the Danish Library Centre.[8] Several recommendations were developed, and many adopted, relating to legal deposit, the coverage, presentation and timeliness of the national bibliography, and the use of international standards. The major outcome of the meeting was the revision of the original UNESCO recommendations from the previous conference.

In light of these developments, to what extent has the concept of national bibliography been adopted internationally? In their 2001 examination of national bibliographies and their adherence to the 1998 ICNBS recommendations, Barbara Bell and Anne Hasund Langballe compiled data showing that 129 out of 183 countries produced a current national bibliography or suitable substitute. At least 70% of the countries therefore believed that this was a tool worthy of the resources required for production. The study also showed that legal deposit legislation, an essential element in supporting the creation of a national bibliography, existed in approximately 75% of the countries[9]. More recently, the IFLA Bibliography Section has produced regional studies on national bibliographic development in Latin America (in 2004) and in Asia (in 2006). These surveys have provided more detailed information on the status of national bibliographies for many countries.[10]

Around the world, national bibliographies are currently available to users in a variety of formats. A number of countries still publish them in traditional print or on microfiches.

New technologies have enabled the development of electronic national bibliographies since the late 1980's. The CD-ROM and the online Web formats provide a greater functionality and an enhanced search capacity to the bibliographic records. An online version can exist as a separate database or it can be part of the national catalogue of a country.

Characteristics of national bibliographies

Among the characteristics of a national bibliography are that it provides a *current*, *timely*, *comprehensive* and *authoritative* list of all titles published in a country, it provides a record of their existence, and it identifies them unambiguously.

Current: by insuring that the descriptive listing is the most up to date for the users looking for bibliographic information. In most countries, the Cataloguing in Publication (CIP) programmes now allow for cataloguing information for published material to be available prior to their publication so CIP records can also be included in the national bibliography. National bibliographic agencies do, however, have to compete with commercial providers of bibliographic data such as publishers' or booksellers' databases which can produce and distribute such data more quickly based on the CIP records.

Timely: by providing this information as quickly as possible to users who need it for collection development, cataloguing purposes and information searching. National libraries and other agencies responsible for national bibliographic services have used the latest technologies to provide quicker and better access to the bibliographic description of the national publishing output. Cooperative arrangements with publishers, booksellers and national libraries/national bibliographic agencies have demonstrated an improvement to the timelines in some countries.

Comprehensive: by including all the titles produced by a country in all aspects of human endeavour. An important if not essential element to achieve this comprehensiveness (some would go beyond and use the term exhaustiveness) is the existence of a national legal deposit legislation which covers published media in all formats. The deposit legislations in many countries have evolved over the last thirty years to include microfilm, audio-visual material, maps, and, during the last decade or so, electronic publications. Going beyond the scope of legal deposit, the mandate of certain national bibliographies also extends beyond what is published in the country to encompass foreign publications from authors of the country and works about the country published elsewhere.

Authoritative: by identifying all the titles produced by a country unambiguously and over time. As a standardized bibliographic repository of all the publications of a country, the national bibliography is the point of reference for all users, nationally or internationally, requiring information about publications emanating from that country.

As the definitive and authoritative list of publications for a country, the national bibliography has many roles including: collection development; authoritative bibliographic description; development of expertise to advance national bibliographic development; statistical information on the publishing output of a country; scholarly research; promotion and marketing of national publications; and preservation and celebration of national memory and identity.

In considering the functions and roles, we must also consider the users of national bibliographies. But who are the users? Considering the history of the capture of the national imprint, it is surprising to see that few studies of users (other than librarians) and their needs in regards to national bibliographies exist. Such studies are essential if we want to understand the use made of these tools and adapt them to the information needs of researchers. Indeed, it will be vital in the near future to consider national bibliographies more stringently in light of user needs, as national libraries and national bibliographic agencies face increasing financial pressures coupled with the need to demonstrate measureable return on investment. If we cannot prove its use and usefulness to a broad audience, the national bibliography may be relegated to history. In addition to the need for such user studies, an understanding of the reasons for this current lack of research could be useful in providing insights into how a national bibliography can serve the new types of knowledge seekers.

Challenges in the new digital environment:

In the current climate, with the increasing influx of digital material, it is imperative to reconsider the purpose of a national bibliography, as some countries are now doing. There are several surveys that have been distributed in recent times related to the production of national bibliographies around the world. As well, the IFLA Bibliography Section is in the process of developing new guidelines for creating electronic national bibliographies, and you will learn more about this in the following presentations. This level of activity confirms that there is still a tremendous interest in maintaining national bibliographic control of all types of material, but the ways to do this and the kind of information that is supplied are being revisited and rethought in light of the impact of the digital environment.

How do we preserve the best attributes of the existing formats and standards of national bibliographies while re-shaping the concept to take advantage of new technological possibilities and strategically cope with the increasingly complex media which must be captured?

Our predecessors in this task faced the challenges of their day and pursued a radical dream – universal bibliographic control – with all the skills and tools at their disposal. One senses that they would challenge us to be equally daring. Our tendency should not be to attempt to fit new concepts into old models, but instead to imagine new methods of capture and description of the diverse materials for which we are responsible. We need to re-think what a national bibliography can be; not in terms of what it was or is (though

we would obviously be unwise to dispose of the existing model entirely), but in terms of what it needs to be – for users, now and in the future.

A wide variety of issues must be addressed. The following provides only a sample of the complex considerations.

- *Flexibility in bibliographic standards*: we must show flexibility in our bibliographic standards for the new publications as national bibliographies will include documents with various levels of complexity. Continuous experimentation in a controlled environment may be the best way to determine the future of describing electronic items in national bibliographies. Facing the uncontrolled world of the Internet, there will be a constant need to understand more fully the creator (and publisher) of web sites and similar products born from the Web, and to become an archive of such products by providing direct access to the users. As Dorothy Anderson has noted in her foreword to Barbara Bell's guide to current national bibliographies, national bibliographic agencies face "the very practical difficulty of trying to define and distinguish publications in an area where technological developments are advancing faster than the terminology describes them"[11].

- *Reasonable exhaustiveness*: the dream of national bibliographies being exhaustive has evaporated with the proliferation of electronic publications and websites. There are almost as many creators of documents on the Web as there are users and it is believed that this number will be increasing with more people connecting to the Internet each day and with more tools allowing these people to create their own information for others. New selection criteria need to be established to identify what constitutes a national publication in order to be included in national bibliographies. The concept of 'reasonable exhaustiveness", as expressed by Marcelle Beaudiquez, seems to describe best the current context.[12]

  A positive side-effect to the inclusion of new digital material will be the democratization of the national bibliography by including voices of groups and communities which often have not been represented in traditional printed material. Some observers have, in the past, criticized the national bibliography as being an elitist "mirror" of a country's culture and scientific output. With the inclusion of Internet material, disenfranchised groups such as youth and cultural minorities will be represented to provide a truer and fuller picture of a country's society.

- *Notions of nationality*: the notions of "nationality" and "territoriality" which traditionally have provided the structural focus for the concept of Universal Bibliographic Control are being challenged by the trans-jurisdictional nature of some of the new electronic publications. The Web, by its very nature, is organized to transcend physical borders to allow people to communicate and create products which are not bound to a country. Agencies responsible for

national bibliographies will need to consider how to deal with such items by working together to find a solution.

- *The new user*: the information retrieval tools on the Web such as Google have radically changed the expectations of users in regard to access to information. With the constant growth of publications available on-line, users want direct access to the available electronic documents without having to consult formal bibliographic descriptions. It is therefore important for national bibliographies to include a link to the archived electronic publication. As mentioned earlier, studies on users must be undertaken to identify their specific needs.

- *Sharing of responsibility*: in a context of balancing diminishing resources against an increasing need to provide access to information in their holdings, national bibliographic agencies must look to their internal library networks to assist them in maintaining a timely and current national bibliography. This mission has also led to collaboration with other information providers to provide one centralized point of access through federated search. Maybe the next logical step for the concept of the national bibliography is the creation of a national registry linking various documentary heritage collections. Cooperative work is also needed internationally especially if we want to address the widening gap between 'information-rich" and "information-poor" countries.[13]

- *Emphasis on role as a permanent record:* With publishers and distributors creating web tools to provide information on new publications more quickly than any current national bibliography can, the importance of the national bibliography is evolving more to a role as a permanent record of the publishing output of a country over a specific period.[14] Such a permanent record can be considered of even greater value in terms of the need to capture information on transitory electronic publications and websites.

Some options for addressing the challenges

The tremendous increase in acquisitions of digital material, due in part to new mandated requirements for legal deposit of electronic publications which are coming into force in many countries, is proving to be a major challenge for national bibliographic agencies around the world. How can we continue to provide authoritative descriptions in national bibliographies for material that is often ephemeral and multimedia with the same or fewer resources?

Basically there are two different approaches to do this:

One approach would be to simplify the level of description that is assigned to each item. For example we could selectively create more minimal level records, or we could describe aggregates or collections of items, such as is common in archival fonds descriptions, rather than describing individual items. Another option could be to add

descriptive elements for a digital resource to the original record for the print source if it exists. This would represent a major change of policy for a national bibliographic agency, but it is becoming increasingly adopted by other libraries.

The second approach to addressing the challenge of describing huge amounts of digital materials is to work with others, with partners. For example, agreements could be made with other repositories of material such as libraries, archives and museums to assume the responsibility for providing descriptive information for parts of the national collection, perhaps for a particular format of material such as audio-visual, or in a specific geographic region. Such agreements already exist in several countries. Metadata could also be supplied by information suppliers such as publishers. As mentioned earlier, this could result in the creation of a broader "national documentary heritage registry" within a country.

In addition to these authoritative suppliers of information, there is increasing discussion around the possibility of having users supply descriptive information. In the spirit of Web 2.0, with its emphasis on user communities and collaboration, could we expect researchers, academics, even so-called ordinary citizens to contribute information to an online national bibliography?

All of these options have implications, even some serious implications, for the researcher, the user, and for content providers themselves. National bibliographic agencies need to continually evaluate the appropriate way forward to ensure that we can realistically provide the bibliographic information that is required by all existing and potential users.

IFLA is taking the lead on some of these challenges, starting with the development of guidelines for electronic national bibliographies. Maja Zumer will discuss these guidelines later in this session.

Summary

So I would like to leave you with some thoughts and some questions about the future direction and value of national bibliographies in the digital age.

How can we harness the power of the Web and its communities of users to improve the process for producing national bibliographies? What can we anticipate for the future of the national bibliography? Should we be contemplating employing Web 2.0 tools to incorporate social networking technologies into bibliographic pursuits? We could, for example, create wiki bibliographies to invite user-generated content. Would this result in useful bibliographic entries, or would the bibliography end up looking more like the results of a book search on Amazon or LibraryThing? There is currently a demonstration version available (launched 16 July 2007) of a project attempting to integrate precisely these concerns. The Open Library intends to be "a product of the people: letting them create and curate its catalog, contribute to its content, participate in its governance, and

have full, free access to its data".[15] It will be interesting to see how this and other initiatives develop in the coming months.

If the potential to add content to a national bibliography is opened up to individuals who are unfamiliar with the range of bibliographic standards, how useful is their input? And is there an untapped pool of potential content generators out there who might want to participate in such a project? Some libraries, including Library and Archives Canada, are already exploring the potential for ingesting metadata from the publishing community. Is there an opportunity to work with publishers further to test the addition of publisher-generated metadata into national bibliographies?

The possibilities afforded by emerging technologies will inevitably have a dramatic impact on future developments of national bibliographies. Maybe we should not be waiting 20 years or more between international conferences on national bibliographic services. We need to be keeping pace with the escalating rate of technological change. It is encouraging that IFLA is continuing its leadership in bibliographic development, and the members of the current working group on electronic national bibliographies deserve to be commended for their exemplary efforts in beginning to address the challenges.

The lessons which can be learned from our predecessors in bibliographic endeavours may be not so much what they accomplished, but the ways in which they accomplished it: with cooperation, professionalism, mutual respect, and imagination. These, more than any technology, are the indispensible tools of our trade.

Based on the pertinent questions being raised about the impact of the digital age on the state of national bibliography, it seems obvious that we are in a time of transition, and it is healthy to question traditional practices. It doesn't mean we will necessarily discard accepted ways of doing things, but we should have the confidence to question our long-held beliefs and practices, and to make changes where necessary. And I am certain that the group of professionals within IFLA and elsewhere will make the right decisions.

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[1] Michael Gorman, "Bibliographic Control or Chaos: An Agenda for National Bibliographic Services in the 21st Century", IFLA Journal, 27 (2001), v.5/6, p. 309.
[2] Beloit College "Mindset List": http://www.beloit.edu/~pubaff/mindset/index.php (accessed 18 July 2007).
[3] Carl Fisch and Scott MacLeod, "Shift Happens", http://www.youtube.com/watch?v=pMcfrLYDm2U (accessed 18 July 2007).
[4] Hobbes' internet timeline v8.2, http://www.zakon.org/robert/internet/timeline/. Information as presented in the "Shift Happens" video has been updated from this source for this paper.
[5] Top U.S. search providers, http://searchenginewatch.com/showPage.html?page=3626208. Information as presented in the "Shift Happens" video has been updated from this source.
[6] *Conference on the improvement of bibliographical services: general report*, UNESCO, Paris, 1950.
[7] *International Congress on National Bibliographies: final report*, UNESCO, Paris, 1978.
[8] International Conference on National Bibliographic Services, Copenhagen, Denmark, 25-27 November 1998. http://www.ifla.org/VI/3/icnbs/icnbs.htm
[9] Barbara Bell and Anne M. Hasund Langballe, "*An Examination of National Bibliographies and their adherence to ICNBS recommendations – Final report to the IFLA Standing Committee on Bibliography*" *(2001)*

[10] Unni Knutsen and Francisca M. Lopez, "*Survey on the state of national bibliographies in Latin America*" IFLA Bibliography Section, April 2004, http://www.ifla.org/VII/s12/pubs/s12-national-bibliography-latinamerica.pdf; Unni Knutsen, "*Survey on the state of national bibliographies in Asia*", IFLA Bibliography Section, July 2006, http://www.ifla.org/VII/s12/pubs/Survey-Asia_MiddleEast-report.pdf.

[11] Dorothy Anderson, Foreward" in Barbara Bell, *An Annotated Guide to Current National Bibliographies*, 2nd edition, UBCIM Publications, Vol. 18, K.G. Saur, Mûnchen, 1998, p. xiv

[12] Marcelle Beaudiquez, "The Perpetuation of National Bibliographies in the New Virtual Information Environment", IFLA Journal, 30 (2004), 1, p.25

[13] Anderson, p.xvi

[14] Marcelle Beaudiquez, "Use and usefulness of national bibliographies: which perspectives?", 67th IFLA Council and General Conference, Boston, 2001, p.3. http://www.ifla.org/IV/ifla67/papers/114-199e.pdf

[15] The Open Library, http://demo.openlibrary.org/about (accessed 19 July 2007).