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**Universal Bibliographic Control and
International MARC Core Programme (UBCIM) and
Division of Bibliographic Control**

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INTERNATIONAL CONFERENCE ON NATIONAL BIBLIOGRAPHIC SERVICES - introduction

Ross Bourne

Chair, ICNBS Planning Committee

This conference will provide the first opportunity for a number of years to discuss national bibliographic services at an international level and to influence their development. That is not to say, however, that these issues have been ignored in the period since the Unesco International Congress on National Bibliographies, which was held in Paris in September 1977. During the IFLA conference held in Brighton, UK, in 1987 sections of IFLA's Division of Bibliographic Control pooled the session time allocated to them in order to review the progress of the past ten years; the proceedings of that seminar were published by the UBCIM Programme in 1988.¹ Subsequently, the UBCIM Programme and the Division of Bibliographic Control have been energetic in promoting national bibliographies at a number of regional seminars throughout the world, for example in Bucharest, Kuala Lumpur, Rio de Janeiro and Vilnius. Many papers presented at the annual IFLA conference and several sectional projects have also been devoted to the issues affecting national bibliographies.

ICNBS has been designed to capitalise on the enthusiasm and energies that have been released following the Paris Congress. But that enthusiasm would not have been

¹ Proceedings of the National Bibliographies Seminar, Brighton, 18 August 1977, held under the auspices of the IFLA Division of Bibliographic Control / edited by Winston D Roberts. London : IFLA UBCIM Programme, 1988. Copies of these proceedings are available from the IFLA UBCIM Programme, whose address is now c/o Die Deutsche Bibliothek, Adickesallee 1, D-60322 Frankfurt, Germany; price: DM.15 or GBP.5.

generated without a real need. At least two sets of circumstances have altered the world as we understood it in 1977: the obvious one is, of course, the development of technology in all its manifestations, whether it be the World Wide Web, the growth of telecommunications, or the development of desktop computing; but the other major factor is a global rethinking of nationhood. This is not just a matter of there being more countries following the collapse of the Soviet Union, or increased regional co-operation, whether it be amongst the countries of the European Union or of southern Africa; sub-national groupings are also asserting their identity, and a few are even striving for independence. That debate is for politicians rather than librarians; bibliographers, however, must be responsive to the problems that may arise and design systems that can meet the challenge. Neither should the socio-economic dimension be ignored. As I write, I am only too aware of strife and famine in parts of Africa and of the threat of economic collapse in the Far East. We should not forget that national bibliographies are to some countries something of a luxury.

This conference is intended to be interactive. Participants will be expected to bring a certain amount of knowledge with them and must be prepared not only to listen but also to debate with open minds. This will not be a showcase for individual national presentations, however interesting these may be: the presentations that will be made will be given from a more general point of view and are intended to provoke debate, not to reinforce the *status quo*. However, participants may like to be reminded about some specific areas that may not receive particular attention during the course of the conference; this booklet contains therefore a number of useful background papers that participants are encouraged to read prior to the conference. Participants should also pay special attention to the original recommendations of the 1977 conference,

which are reproduced here by kind permission of Unesco.

Members of the planning committee and myself look forward to meeting you in Copenhagen this November. I know that our Danish colleagues have also planned an excellent social programme, so while I look forward to taking part in some heated discussions during the day there will be ample opportunity to get to know one another at a personal level outside the conference agenda.

UNESCO 1977 recommendations on National Bibliographies

The International Congress on national Bibliographies, held at Unesco from 12 to 15 September 1977,

Endorsing the concept of Universal Bibliographic Control (UBC) as a long-term programme for the development of a world-wide system for the control and exchange of bibliographic information,

Emphasizing the need to strengthen national bibliographic control as a prerequisite for universal bibliographic control,

Recognizing the importance of the national bibliography as a major instrument in ensuring national bibliographic control,

Makes the following recommendations:

Legal deposit

1. Member States should examine existing desposit legislation and consider their provisions in relation to present and future requirements in order to develop and maintain national bibliographic control; and, where necessary, existing legislation should be revised;
2. Member States currently without legal deposit should examine the possibilities of its introduction as a means of strengthening national bibliographic control
3. New deposit laws, or regulations pursuant to such laws, should state the objective of legal deposit in relation to the national bibliography; should ensure that the deposit of copies is relevant to the requirements of the national library system; should be comprehensive in terminology and wording to include existing types og materials with information content and others which may be developed; and should include measures for enforcement of the laws;

4. Unesco should draft model legislation which serve as a basis for Member States in attaining national bibliographic control, and which would take into account the relationship between copyright and legal deposit;

The selection of materials for the national bibliography

5. National bibliographies, as a minimum, should include the records for monographs and first issues and title changes of serials, including official publications, of the national imprint; and other categories of materials should be included as rapidly as possible to meet the requirements of the national library community and the resources of the national bibliographic agency. When national bibliographic agencies for linguistic, cultural or other reasons include records for publications clearly not part of the national imprint, such records should be identified as not belonging to the national imprint;
6. The national bibliography should include records for materials in all the languages and/or scripts in which publications are produced within a country; and wherever possible these records should be in the languages and/or scripts in which the publications originally appeared;
7. Further study should be undertaken to define additional categories of materials and to suggest priorities for their inclusion in the national bibliography;

The presentation and frequency of the printed national bibliography

8. The printed national bibliography should appear as a minimum quarterly with at least annual cumulations;
9. Each printed issue should conform to the following:
 - use of an international paper size (recommended A4);

- clear and unambiguous layout and typography or cover and/or title page to include:

title of the bibliography;
the period which the issue covers;
place of publication;
name of publisher;
date of publication;
ISSN in top right-hand corner;

- verso of title page to include:
copyright information;
cataloguing-in-publication entry;
details of availability, price, details of printing

- introduction (in each quarterly issue at least);

- main body of text;

- indices (cumulated annually) covering complementary arrangements to that of main text;

10. In the introduction should be included details stating:
the basis for the records, for example, records made from copies deposited in the national library in accordance with legal deposit stipulations;

coverage, including exceptions;

frequency;

arrangement;

bibliographic and cataloguing tools used;

list of special terms used, with definitions and abbreviations;

outline of classified arrangement (if used);

outline of transliteration schemes (if used);

description of filing system;

11. The current issues of the printed national bibliography should be arranged in a classified order in accordance with a stated internationally-used classification scheme and the arrangement of cumulations should be decided at the discretion of the national bibliographic agency;

Catalogue cards

12. A study should be undertaken of the extent of production of catalogue cards by national bibliographic agencies and their use internationally; and an examination should be made of the desirability of establishing an international standard for the physical form of the card;

Contents of the bibliographic record

13. The national bibliographic agency should undertake responsibility for preparing the comprehensive bibliographic records of its national imprint and in so doing follow international cataloguing principles and adopt international numbering systems such as ISBN or ISSN; should maintain an authority control system for national names, personal and corporate, and uniform titles, in accordance with international guidelines; and should consider the adoption of an internationally-used classification scheme for the records;

14. The national bibliographic agency, in anticipation of the introduction of new cataloguing rules, descriptive practices, or subject approaches, should ensure that training courses are provided within the country to familiarize the national library community with the new practices;

15. Specific projects to promote international bibliographic standards and guidelines should be undertaken for authority control applicable to both manual and mechanized systems; abbreviated and minimum records as required, e.g. for CIP;

Publications of intergovernmental and international non-governmental organizations

16. Intergovernmental and international non-governmental organizations should introduce cataloguing-in-publication schemes in accordance with international bibliographic standards;
17. Intergovernmental organizations should co-operate in a joint effort to produce a current bibliography of all their publications;

Information systems

18. Studies should be made of the utilization of records produced for national bibliographies as national input to information systems, and vice versa;
19. Greater efforts at national and international levels should be made to ensure compatibility between the bibliographic exchange formats of the library and information communities;

The International Serials Data System (ISDS)

20. Member States should establish national and/or regional centres for ISDS, if possible within the national bibliographic agency;
21. A study should be made of the interrelationship of the ISDS register and the serial records of national bibliographies and the results should be taken into account in the revision of the ISDS Guidelines.

Resource sharing

22. Studies should be made into issuing multinational bibliographies in areas where for any reason it is not feasible at present to publish national bibliographies and/or where there are some geographical,

linguistic or cultural links;

23. Unesco and other appropriate institutions should be asked to assist in the establishment of pilot schemes for national bibliographic agencies, or in the production of national bibliographies, and in the organization of national, regional or international seminars and training workshops for these.

Results of a "Survey on Bibliographic Control and National Bibliography, IFLA Section on Bibliography"

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Abstract

This paper presents the results of a survey on bibliographic control and national bibliography that was sent out in 1996 to members of the Conference of Directors of National Libraries. All parts of the world are represented by the 64 valid responses (52%). National agencies continue to provide the highest degree of bibliographic control to print formats and to distribute the resulting national bibliography in print. New formats such as computer tape, CD-ROM, and floppy disk are becoming more popular, and many agencies plan to add these formats within the next two years. Internet access is increasingly available. Second and Third World agencies are making increasing use of computer technology.

The following paper presents preliminary results of a survey on bibliographic control and national bibliography. As a member of the Section on Bibliography, I proposed this project at the 1995 IFLA Annual Conference in Istanbul, Turkey. With the support of the Section Standing Committee and its Chairperson, Ross Bourne, IFLA provided a small grant to prepare and mail this survey. I thank IFLA for this support.

The survey and its distribution

I developed the survey with several goals in mind:

- To determine the extent of bibliographic control by national agencies including their choice of bibliographic control standards and the creation of machine readable records;
- To discover whether the agency responsible for bibliographic control also produced a national bibliography including its format, frequency, and cumulation patterns;
- To ask about the existence and success of legal deposit in each country;
- To determine whether national bibliographic records were available online;
- To determine the reasons why the bibliographic agency prepared a national bibliography;
- To ask about major changes in the national bibliography during the last two years and to ask about plans for changes in content and format of the national bibliography during the next two years.

My main hypothesis was the national bibliographic agencies, at least in the developed world, were changing from print and microformats to various online and machine readable formats including Internet access. I also hoped to find some evidence that Third World countries were taking advantage of the new technologies to enhance access to their publishing output and perhaps to speed up the production of the national bibliography as a tool for acquisitions. Especially in Third World countries, often by the time the national bibliography became available, the publications were no longer in print.

I developed the survey instrument to answer the questions given above. Wherever possible, respondents could check off the appropriate answers. Some questions had space for a textual response where more than a limited number of possible answers existed or where comments were appropriate. The last page of the twelve page questionnaire included space for additional comments. While the survey itself was in English, the accompanying cover letter was in both English and French. I had the survey and cover letter reviewed by a colleague,

Dr. Ronald Powell, who is an expert in survey methodology, and by selected members of the Section's Standing Committee. I incorporated their suggested changes in the final version.

From a mailing list provided by IFLA, I distributed the survey to the members of the Conference of Directors of National Libraries except for the observers who are not connected with national libraries. On 10 January 1996, I mailed out 123 surveys with instructions to return the survey by 1 April 1996 if possible. I encouraged participants to get in touch with me by mail, telephone, telefacsimile, or email if they had any questions. I also gave participants the possibility of asking for a machine readable version of the survey via the Internet. Five agencies, including two agencies in the Second World, took advantage of this option and submitted their responses by email or file transfer.

The response rate

I received a total of 66 responses from 63 countries or regions. (See Table 1 for a complete list of respondents arranged by the status of their economic development and then by continent.) Denmark and Sweden sent multiple responses because more than one agency is responsible for bibliographic control. I had duplicate responses from the Biblioteca Nacional in Spain, but tabulated only the most comprehensive response. I counted Wales and Scotland as separate from the United Kingdom because of their regional responsibilities. Mongolia sent a response that the State Public Library was not able to answer the questions. Useable responses therefore totaled 64 for a return rate of 52%.

The response rate by geographic area is as follows:

Africa	8	12.5%
Asia	14	21.8%

Europe	32	50.0%
North America	6	9.4%
Pacific Ocean	1	1.6%
South America	3	4.7%

The response rate by level of economic development¹ and geographic area is as follows:

Economically Developed Nations	26	40.6%
Asia	3	
Europe	20	
North America	2	
Pacific Ocean	1	
Former Members of the Soviet Bloc	12	18.8%
Europe	12	
Third World Countries	26	40.6%
Africa	8	
Asia	11	
North America	4	
South America	3	

For a survey whose goal was to get additional information from the developing nations, the response rate from this group was quite good and shows, I believe, their commitment to bibliographic control and their support of IFLA activities.

Quality of the data

At the outset, I will say that the quality of the data did not meet my expectations. This factor limits the conclusions that can be legitimately drawn from the responses. I thank all the respondents who took time from their professional duties to respond to this questionnaire and in no way intend the following comments to criticize any national bibliographic agency who responded to the survey. I believe that the following elements made it difficult to get accurate, consistent data.

1. Complexity of the Subject

Bibliographic control and national bibliography is a complex subject. I based the survey upon the bibliographic control and publishing conventions that were familiar to me but that may not have accurately reflected the same

conventions in other parts of the world. Furthermore, many respondents included comments that indicated the existence of multiple national bibliographies for different formats and time periods while my survey may have made the implicit assumption that each agency published a single comprehensive national bibliography.

2. Lack of Data on the Part of the Respondents

I should have realized that some of the most important questions such as the percentage of bibliographic coverage and of materials available through legal deposit were difficult if not impossible to answer because the respondents did not acquire or list these materials precisely because they were unknown. "Don't Know Percent" was the response most often chosen for these two questions.

3. Faults in the Instrument

After analyzing the results, I believe that the survey tried to do too much. While the Section on Bibliography was particularly interested in recent and proposed changes, this part of the survey did not probe deeply enough. Nonetheless, given the complexity of the subject of national bibliography, it may have been impossible to have gathered the necessary information without an interview with each respondent. At 12 pages, the survey may have already been too long.

The question on the intended uses of national bibliography asked respondents to "please rank the following 5 reasons from 1-5" without making explicit my assumption that the respondents should not reuse any number.

Finally, I now realize that the best strategy would have been to include versions of the survey in all official IFLA languages. This factor may explain the somewhat low response rate from Spanish-speaking

Table 1: Survey Respondent by Economic Development and Continent

Economically Developed Nations ("First World")		
Israel	Jewish Nat. & Univ. Libr.	Asia
Japan	National Diet Library	Asia
Qatar	National Library	Asia
Denmark	Danish Library Centre	Europe
Denmark	Royal Library	Europe
Finland	National Library	Europe
France	Bibliothèque Nationale	Europe
Germany	Deutsche Bibliothek	Europe
Greece	National Library	Europe
Iceland	National & Univ. Library	Europe
Italy	Biblioteca Nazionale	Europe
Liechtenstein	Landesbibliothek	Europe
Malta	National Library	Europe
Netherlands	Koninklijke Bibliotheek	Europe
Norway	Nasjonaltbiblioteket	Europe
Portugal	Biblioteca Nacional	Europe
Scotland	National Library	Europe
Spain	Biblioteca Nacional	Europe
Sweden	Arkivet för lind och bild	Europe
Sweden	National Library	Europe
Switzerland	National Library	Europe
United Kingdom	British Library	Europe
Wales	National Library	Europe
Canada	National Library	North America
United States	Library of Congress	North America
New Zealand	National Library	Pacific Ocean
Former Members of the Soviet Bloc ("Second World")		
Mongolia	State Central Library	Asia
Bulgaria	National Library	Europe
Estonia	National Library	Europe
Hungary	National Széchényi Library	Europe
Latvia	National Library	Europe
Lithuania	National Library	Europe
Macedonia	Narodna i univerzitetska bibl.	Europe
Poland	Biblioteka Narodowa	Europe
Romania	Biblioteca Nationala	Europe
Russia	National Library	Europe
Serbia	National Library	Europe
Slovakia	Slovak National Library	Europe
Slovenia	National Library	Europe
Developing Nations ("Third World")		
Botswana	National Library Service	Africa
Burundi	Bibliothèque Nationale	Africa
Kenya	National Library	Africa
Madagascar	National Library	Africa
Malawi	National Archives	Africa
Mali	Bibliothèque Nationale	Africa
South Africa	State Library	Africa
Tanzania	National Bibl. Agency	Africa
India	Central Reference Library	Asia
Iran	National Library	Asia
Korea	National Library	Asia
Laos	National Library	Asia
Malaysia	National Library	Asia
Pakistan	National Library	Asia
Singapore	National Library Board	Asia
Sri Lanka	National Library	Asia
Syria	Assad National Library	Asia
Thailand	National Library	Asia
Turkey	National Library	Asia
Cuba	Biblioteca Nazionale José Martí	North America
Haiti	Bibliothèque Nationale	North America
Jamaica	National Library	North America
Mexico	Biblioteca Nacional	North America
Brazil	Biblioteca Nacional	South America
Chile	Biblioteca Nacional	South America
Peru	Biblioteca Nacional	South America

countries. Such a multiple language version, however, was beyond my capabilities as a researcher.

Survey results

Notwithstanding the comments given above, I believe that the survey provided meaningful conclusions or, at a minimum, reasonable indications in several areas.

1. The types of materials for which the agency attempts to provide bibliographic control

Out of 64 valid responses, the following table gives the number and percentage of those agencies that gave a "yes" answer for each type of material.

Books	62	96.9%
Serials	60	93.8%
Official Publications of Your Government	56	87.5%
Conference Proceedings	55	85.9%
Textbooks	52	81.3%
Materials about the Country Published Abroad	46	71.9%
Maps	45	70.3%
Dissertations	44	68.8%
Pamphlets	43	67.2%
Music	42	65.6%
Sound Recordings	35	54.7%
Periodical Articles	33	51.6%
Graphic Materials	31	48.4%
Microforms	30	46.9%
Motion Pictures & Video Recordings	26	40.6%
Computer Files & Software	20	31.3%
International Government Publications	19	29.7%

These results show the emphasis upon the bibliographic control of traditional text formats. The number of agencies that provide bibliographic control for materials published abroad about the country and for periodical articles is higher than I would have expected.

The survey included the opportunity to add additional categories that were not included in the list above. Twenty agencies did so; the categories with more than one response were

manuscripts and braille, each with four responses.

2. Bibliographic Control Standards and Machine Readable Records

The *Anglo-American Cataloguing Rules* is the most used cataloging code with 33 users (55%) out of the 60 agencies that responded. In addition, 4 other agencies (6.7%) replied that they used a local cataloging code based upon *AACR-II*. Use of the ISBD (International Standard Bibliographic Description) rules came in second with 4 users (6.7%). The use of *AACR-II* is not limited to the English speaking community² and has wide geographic distribution (Asia--12; Africa--5; Europe--8 plus 3 modified; North America--4 plus 1 modified; Pacific Ocean--1; and South America--3).

The two major decimal classifications are even more dominant among the 61 agencies that report using classification in their bibliographic records. The Dewey Decimal Classification (DDC) is used as the major classification system by 30 agencies (49.2%); it is a secondary classification scheme for two others. Four agencies (6.6%) reporting using a local version of DDC. The Universal Decimal Classification (UDC) came in second with 16 agencies (26.2%) including one local version. Three agencies (4.9%) used Library of Congress Classification while four agencies (6.6%) report a local system or varied systems without further detail.

Subject access is more difficult to describe. Of the 52 agencies, five agencies (9.6%) responded appropriately that they used classification to provide subject access though this is a duplicate answer to the last question. Somewhat to my surprise, 15 agencies (28.8%) reported using *Library of Congress Subject Headings (LCSH)* plus four other agencies (7.7%) said that their system was based upon *LCSH*. Nine agencies (17.3%) said that they used local subject headings without giving further details. Two agencies (3.8%) used thesauri; one (1.9%) used

Sears Subject Headings; and one (1.9%) used chain indexing. The rest reported a local system without further precision or indicated they provided subject access only for limited areas such as biography and geographic areas. Any future survey or examination of national bibliographies should ask for more detailed information in the area of subject access.

Of the 63 agencies that responded, 48 (76.2%) said that they created machine readable records as part of the bibliographic control process. Of the 15 (23.8%) that said they did not, 9 planned to do so within the next two years. The remaining six agencies with no plans for machine readable records were all Third World countries (three in Africa and three in Asia). When asked about the specific machine readable format, seven responded MARC without any further detail on the exact version. Seven agencies use UNIMARC; seven US MARC, and two UK MARC. Interestingly, the agency in one country, Lithuania, reported that it used Procite, a software program designed to create bibliographic citations for research papers.

3. National Bibliography

When asked whether their institution produced a national bibliography, 61 agencies responded yes; and one responded no. The Library of Congress in United States gave the nuanced answer that it does not technically produce a national bibliography but does provide bibliographic control for national imprints. (Responses from the United States are included in the tabulations.) When asked whether the national bibliography included all the materials that the agency brought under bibliographic control, 42 agencies (67.7%) said yes; and 20 (32.3%) responded no. Without going into great detail, the agencies normally excluded specialized materials and newer formats from the national bibliography.

TABLE II Format for National Bibliography

Country	Print	Microfiche	Computer Tape	Floppy Disk	CD-ROM
Botswana	y				
Brazil	y	y	y		y
Bulgaria	y			y	
Canada		y	y		
Chile		y			
Cuba	y			y	
Denmark	y		y	y	y
Denmark	y	y			y
Estonia	y			y	
Finland	y		y		y
France	y	y	y		y
Germany	y		y	y	y
Greece	y				
Haiti	y				
Hungary	y	y		y	y
Iceland	y			y	
India	y				
Iran	y				
Israel	y				
Italy	y		y	y	y
Jamaica	y				
Japan	y		y		y
Kenya	y				
Korea	y				y
Laos	y				
Latvia	y		y	y	
Liechtenstein	y				
Lithuania	y			y	
Macedonia	y		y		
Madagascar	y				y
Malawi	y				
Malaysia	y				y
Mali	y				y
Malta	y				
Mexico			y	y	y
Netherlands	y				y
New Zealand	y	y			
Norway	y	y		y	y
Pakistan	y				
Peru	y			y	
Poland	y			y	y
Portugal					y
Qatar	y				
Romania	y			y	
Russia	y				?
Scotland		y			y
Singapore	y		y		y
Slovakia	y		y	y	
Slovenia	y		y		y
South Africa	y	y			y
Spain	y	y	y		y
Sri Lanka	y				
Sweden	y				
Sweden	y				y
Switzerland	y				
Syria	y				
Tanzania	y				
Thailand	y				
Turkey	y				
United Kingdom	y	y	y		y
United States		y	y		y
Wales	y				

Determining whether the format for national bibliographies had changed since previous studies of national bibliography was one of the key questions for this survey.

Table II gives the distribution formats for all the agencies that produce a national bibliography.

Print remains the preferred format with 56 agencies (90.3%) providing a printed version of the national bibliography. CD-ROM is the next most preferred format with 27 agencies (43.5%). The remaining distribution formats are: computer tape--17 agencies (27.4%); floppy disk--16 agencies (25.8%), and microfiche--12 agencies (19.4%). While other formats were given as choices as well as the opportunity for the agency to write in additional formats, these were the only ones that were chosen. As Table II shows, many agencies distribute their national bibliography in multiple formats. I am encouraged by this section because many Second and Third World countries have taken advantage of the new computer formats: 7 out of 17 respondents for computer tape (41.2%), 11 out of 16 for floppy disk (68.8%), and 9 out of 27 for CD-ROM (33.3%). A detailed analysis of public frequency and cumulation patterns is beyond the scope of this preliminary analysis. I would note that 13 (21.7%) out of the 60 reporting agencies responded that they did not provide any cumulations of their national bibliographies.

When asked about legal deposit, 59 (92.2%) out of 64 reporting agencies reported that it existed in their country. In the comments section, several agencies reported attempts to strengthen legal deposit in their countries to take into account technological changes and new publishing patterns.

The next section asked questions about "national records as an online resource." 43 agencies (68.3%) provide some type of online access, and 20 (31.7%) do not. Of the economically developed countries, 22 (84.6%) provide online access and 4 (15.4%) do not. Among former Soviet bloc members, 9 (75%) do and 3 (25%) do not. Among Third World countries, 12 (48%) do and 13 (52%) do not. As with the distribution formats, I am encouraged that the figures for online access for agencies outside the

developed countries is as high as it is. Of the 43 agencies that provide online access, 22 (51.2%) answered "yes" to the question: "Does this access include materials published in your country but not owned by your agency?"

Table III provides information on the ways in which online records are available. (Mali answered "yes" to the availability question but did not give details.) Of particular interest is that 29 agencies (46% of those answering this question) provide Internet access including 3 agencies in the former Soviet bloc and 8 in the Third World.

Table IV tabulates responses to the question on the intended uses of national bibliography. I expected that the answers should be forced ranked from 1-5 in priority order, but my instructions were not clear enough so that some agencies reused the same priority number. Nonetheless, the results are quite clear even with these statistical flaws. The most important intended use for all respondents and for all categories according to economic development was "to record materials published in our country" at 4.75 for the group as a whole. The Second World agencies gave this response a perfect score of 5. The second most important reason at 3.51 for the combined group was "to provide bibliographic data for other agencies to catalog or to bibliographically control materials published in our country." The more self-serving reason on the list, "to help libraries and other agencies identify materials published in our country that they wish to buy," came in third for the combined group (2.87) as well as for the developed nations (2.92) and the Third World (3.00). It came in last for the Second World (2.44). "To share our bibliographic data with other agencies" came in fourth for the combined group (2.61), the developed nations (2.29) and the Third World (2.55). This reason was significantly more important for the Second World (3.5), but this is due in part to higher average scores for this group because of its

TABLE III Availability of Online Records

	1	2	3	4	5	6
1	From computer terminals within our agency for the staff					
2	From computer terminals within our agency for the public					
3	Other agencies that have direct (hard wired) connections					
4	Dial in access through direct telephone connections					
5	Dial in access through computer to computer connections					
6	Access through the Internet					
Country	1	2	3	4	5	6
Brazil	y	y	y	y	y	y
Bulgaria	y					
Canada	y	y	y	y		y
Chile	y	y	y			y
Denmark	y		y	y	y	y
Denmark	y	y	y	y	y	y
France	y		y			y
Germany	y			y		y
Hungary	y	y				y
Iceland	y	y	y			
Israel	y	y	y	y	y	y
Italy	y	y				y
Jamaica	y					y
Japan	y			y		
Korea	y			y		y
Liechtenstein	y	y	y	y		
Lithuania	y					
Macedonia	y	y	y	y	y	
Malaysia	y	y	y	y		y
Mali	No details reported					
Mexico	y	y			y	y
New Zealand	y	y	y	y	y	y
Norway	y	y	y	y	y	y
Peru		y				
Poland	y	y				
Portugal	y	y	y	y	y	y
Romania	y	y				y
Scotland	y	y				y
Serbia	y	y	y	y	y	
Singapore	y	y	y	y	y	y
Slovakia	y	y		y		y
Slovenia	y	y		y	y	
South Africa	y		y	y	y	
Spain	y	y	y			y
Sweden	y	y	y			y
Sweden	y	y	y	y	y	y
Switzerland	y	y	y	y	y	y
Thailand	y	y		y		
Turkey	y	y	y			y
United Kingdom	y	y			y	y
United States	y	y	y	y		y
Wales	y	y				y

reuse of higher priorities. Finally, "to further the aim of universal bibliographic control as formulated by IFLA" came in last, even in an IFLA survey, with 2.23 for the combined group, 2.17 for the developed nations, and 1.95 for the Third World. Only for the Second World did it score higher at 3.00 to come in fourth. In conclusion, these answers reaffirmed the high importance of national bibliography as the national memory of each country's intellectual production.

The final two sections on "recent changes" and "future plans" provide some sense of developments in national bibliography. 34

agencies (56.7%) indicated that they had made changes in the national bibliography during the last two years while 26 (43.3%) did not. These changes are too diverse and lacking in detail to tabulate, but some examples are the move to CD-ROM publication and the inclusion of new formats such as e-journals. Many agencies indicated changes in scope, coverage, arrangement, and indexes without giving details.

I analyzed plans for future changes separately according to content and distribution format. 28 agencies (43.8% of valid returns) said that they planned to revise the content of the national bibliography. 20 agencies (31.3%) said that they planned to add various formats in both the traditional and new formats. Two agencies (3.1%) planned to eliminate various formats. The National Library of Russia said that it planned to eliminate production of a national bibliography. Overall, plans included bringing more items under bibliographic control.

35 agencies (54.7% of valid returns) replied that they planned to make changes in distribution. Most planned to add machine readable formats. While not all agencies gave details on these formats, 15 (42.9% of those planning changes) said that they were considering CD-ROM; 6 (17.1%) were considering floppy disk; one (2.9%) was considering computer tape; and 17 (48.6%) were considering various forms of online access including 7 (20%) agencies that explicitly mentioned Internet access. Surprisingly, 3 agencies (8.6%) planned to add microformats. As for deletions, 2 agencies (5.7%) planned to eliminate printed products for at least some types of materials while 2 (5.7%) planned to do the same for microform versions. Planned changes toward machine readable products were particularly noticeable in Second World countries (8 agencies) and Third World countries (13 agencies).

Table IV: Intended Uses of National Bibliography

	1	2	3	4	5
1	To record materials published in our country				
2	To provide bibliographic data for other agencies to catalog or to bibliographically control materials published in our country				
3	To share our bibliographic data with other agencies				
4	To help libraries and other agencies identify materials published in our country that they wish to buy				
5	To further the aim of universal bibliographic control as formulated by IFLA				
All Agencies					
Total Weighted Votes	261	193	141	152	118
Count	55	55	54	53	53
Average (5=most important)	4.75	3.51	2.61	2.87	2.23
Developed Nations					
Total Weighted Votes	111	84	55	70	52
Count	24	24	24	24	24
Average (5=most important)	4.63	3.5	2.29	2.92	2.17
Second World					
Total Weighted Votes	55	45	35	22	27
Count	11	11	10	9	9
Average (5=most important)	5.00	4.09	3.50	2.44	3.00
Third World					
Total Weighted Votes	95	64	51	60	39
Count	20	20	20	20	20
Average (5=most important)	4.75	3.20	2.55	3.00	1.95

NOTE: As was explained in the text, agencies did not always follow the implied instructions to rank order their voting. This table reflects votes as cast by all agencies even when multiple occurrences of the same ranking number was used. For the weighted votes, the highest priority response received 5 points, the second 4, the third 3, the fourth 2, and the fifth 1.

Conclusions

I believe that this analysis of the survey justifies the following conclusions:

- National libraries remain committed to national bibliographic control and national bibliography as shown by the response rate to the survey (52%) and the almost unanimous commitment to producing a national bibliography.
- The traditional printed formats have the greatest probability of being under bibliographic control. Non-print formats have the least probability.
- In the area of standards for bibliographic control, *AACR-II* for cataloging, *DDC* followed by *UDC* for classification, and *LCSH* for subject access are the most widely used. Thus, Anglo-American

cataloging traditions have a high degree of international acceptance, even in non-English speaking countries.

- A strong majority, 76.2%, created machine readable bibliographic records. Close to the same percent, 68.3%, provide online access including 29 agencies (46.0%) whose records are available through the Internet.
- Most agencies (92.2%) acquire materials through legal deposit, but several commented on the need to strengthen legal deposit to take into account technological changes and new publishing patterns.
- Print remains the preferred format for national bibliography (56 agencies), but CD-ROM is second (27 agencies). During the next two years, many agencies are considering adding a CD-ROM as a format for national bibliography (15 agencies) and providing various forms of online access (17 agencies).
- The most important reasons that agencies produce a national bibliography is "to record materials published in [their] country."
- Second and Third World countries are making increasing use of computer technology to create machine readable records, to publish their national bibliographies in a machine readable formats, and to provide online access to their bibliographic records.

Notes

¹To determine correct placement for levels of economic development, I used "Appendix A: The Developing Countries, Regional Groupings" (pp. 141-143) in Stephan Haggard, *Developing Nations and the Politics of Global Integration* (Washington: Brookings Institution, 1995).

²English is not the official language or the language of the former colonial power in the following countries whose bibliographic control agencies said that they use *AACR-II*: Brazil, Chile, Denmark, Greece, Iran, Laos, Mexico, Peru, Romania, Slovakia, Syria, Thailand, and Turkey

Inclusion of Information Covering Electronic Resources in National Bibliographies: Results of a Survey Conducted May-June 1998

Preliminary Report Prepared for the International Conference on National Bibliographies
Copenhagen, Denmark, November 25-27, 1998

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Introduction

In early summer 1998, questionnaires were sent to the membership of the Conference of Directors of National Libraries (CDNL) to solicit information regarding inclusion of information for electronic resources in national bibliographies. The purpose of this Survey was three-fold:

- (1) To establish the extent to which coverage was now being provided for this recent and increasingly important material and the extent to which greater attention to electronic resources was intended for the near future.
- (2) To ascertain the nature of the cataloguing conventions - rules, standards, and local practices - being followed in representing entries for electronic materials in cases where National Bibliographic Agencies

(NBAs) are providing coverage.

- (3) To determine how NBAs are dealing, in particular, with remote access electronic resources, such as materials available on the INTERNET and to ascertain what solutions they have instituted to meet the unique problems of such entities.

A large number of institutions, totaling 55, replied to the questionnaire, providing input from National Bibliographic Agencies from Albania, Armenia, Australia, Austria, Botswana, Brazil, Canada, Chile, Croatia, Czech Republic, Denmark¹, Estonia, Finland, France, Germany, Great Britain, Guatemala, Hungary, Israel, Italy, Japan, Korea, Latvia, Liechtenstein, Macedonia, Madagascar and Malawi, Maldives, Malta, Mexico, Mongolia, Netherlands, New Zealand, Norway, New Guinea, Peru, Philippines, Poland, Portugal, Romania, Russia, Scotland, Singapore, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Tanzania, Tunisia, Wales, United States. As a result, participation is world-wide in nature, although regions are not represented equally: 2 replies from North America; 4 from Central and Latin America; 18 from Western Europe; 12 from Eastern Europe; 2 from the Middle East; 5 from Africa; 9 from Asia and Indian/Pacific Ocean countries.

The report which follows represents the first (and therefore preliminary) analysis of the Survey results. A fuller, more analytic version is being developed for presentation at a Workshop to be held by the IFLA Section on Bibliography at the 1999 Annual Conference in Bangkok, Thailand.

Coverage

In revealing coverage for electronic resources, the Survey provided respondents with a broad definition for the medium:

Electronic resources are those materials encoded for manipulation by a computer, basically comprising "**data**" and/or "**programs**". "**Data**" includes text (e.g. books, journal, articles, both issued electronically and electronically digitized), numeric data, representational data, while "**programs**" include database programs, desktop publishing programs, word processor programs, systems programs, other electronic application programs, etc. For the purpose of the Survey, electronic resources were divided **by format** into the following categories: *Electronic resources on optical discs*, including CD Roms, Photo Cds, et; *Electronic resources on disk(ette)s*; *Electronic resources on magnetic tape*; and *Remote electronic resources*, such as those on the Internet and/or World Wide Web, and online services. In addition, *Interactive Multimedia*, which combines media residing in one more physical carriers, was included as a category.

Within this scope of this definition, 39 respondents indicated current coverage of at least one type of electronic resources, while 34 included entries for two categories and others for several types.

Below is given more detailed information regarding the extent to which the different kinds of electronic materials are now being included in national bibliographies:

Table 1

Category of Electronic Material	No. of NBAs reporting coverage
Material on optical discs	34
Material on disk(ette)s	39
Material on magnetic tape	09
Remote resources	17
Interactive Multimedia	22

Regarding each category of material, respondents were asked to report the date at which coverage began and approximate number of bibliographic entries for the latest issue of your national bibliography. The information in Table 2 reflects replies overall, giving a general impression, with replies falling outside the "norm" not included:

Table 2

Category of Electronic Material	Coverage began	No. of entries (latest issue)
Material on optical discs	Late 1980	300
Material on disk(ette)s	Late 1980s	100
Material on magnetic tape	1980s	100 or less
Remote resources	Mid-1990s	100-200
Interactive Multimedia	Mid-1990s	100-300

Thus, it appears that those national bibliographies including electronic resources began to do so in the mid- to late 1990's, in some cases expanding coverage to include remote access and interactive multimedia in the mid-1990s. In the usual case, the quantity of titles included in the latest issue is still modest.

Electronic material can take on a variety of manifestations in terms of kind of publications they manifest. The Survey revealed that national bibliographies

providing coverage produce entries which fully reflect the gamut of possibilities:

Table 3

Kind of publication represented	Number of NBAs reporting coverage
Serials (e.g. journals)	27
Texts (e.g. books)	32
Directories & databases	27
Bulletin Boards & discussion lists	28
Digital reproductions	11
Online services	5
Web sites	6
Programs (e.g., word processors, games, desktop publishing)	14

Respondents were asked to indicate the source(s) by which they acquire the electronic material they covered in their national bibliography. Their replies revealed a mixture of acquisitions strategies, including purchases (18 NBAs), gift/exchanges (20 NBAs), but most importantly, legal deposit (27). Regarding the latter, it was clear from replies that, where updated to cover electronic resources, legal deposit requirements have been changed only recently, and in several nations such changes are still in draft. As a result, instances were reported where the electronic versions might be subject to deposit arrangements more of a voluntary than legal nature and were negotiated on a case-by-case basis with publishers. Also reported were arrangements that involved returning material to publishers after bibliographic entries are prepared.

Of those already providing coverage for electronic materials in their national bibliographies, 28 reported that they will expand coverage of electronic materials in

the future. Expansion could occur as a result of including a greater number of items for categories of resources already covered, initiating coverage for categories not currently within scope, or both. One category mentioned frequently in this regard was remote access material relating to the nation, while more than one reporting NBA cited digital videodiscs (DVDs) as another likely candidate. Most respondents expecting to increase coverage stipulated increased coverage of more traditional formats, however. In several cases, anticipated changes in legal deposit requirements were cited as governing the nature and size of increased representation of these materials in national bibliographies. Most anticipating an opportunity to increase coverage of electronic material indicated that such expansion would occur very soon - as early as mid- to late 1998, or within 1999 or 2000.

Of those NBAs replying to the Survey which currently do not provide coverage any electronic materials, most (14) are planning to initiate some kind of activity in this area in the near future. (Within this group, however, some indicate that they encounter electronic materials issued as accompanying material for printed publications; when this happens these NBAs provide for the electronic component within the bibliographic entry for the host document). A large number of respondents from national bibliographic agencies in developing nations were among those which do not yet cover electronic materials but plan to do so soon, although surprisingly there were also some prominent Western European countries still in the "planning for coverage" phase. In many instances, those anticipating expansion of national bibliographies to include electronic resources directly link it

to revision of requirements to extend legal deposit to add one or more types of electronic material.

Policies for Bibliographic Description

The respondents providing coverage for one or more types of electronic materials were asked a series of questions intended to establish the cataloguing practices and policies used for the bibliographic descriptions to appear in their national bibliographies. Most reported that their staff follow the national cataloguing rules, with 19 indicating that their descriptive policies are based on the *Anglo-American Cataloguing Rules, Second Edition*, either the English text, a translation of it, or an adaptation. Also used are the *CONSER Cataloging Manual: Module 31*, which covers descriptive cataloguing of remote access computer files.

Respondents from Australia, Austria, Estonia, Denmark, France, Germany, Korea, Peru, Singapore, Slovak, Sweden, Switzerland and Tunisia reported that their national cataloguing rules have been revised to incorporate more up-to-date provisions covering electronic materials, such as those presented in the recently issued *International Standard Bibliographic for Electronic Resources (ISBD(ER))*². In Armenia, Czechoslovakia, Finland, Hungary, Mexico, the Netherlands, New Zealand, Norway, and Russia, projects to revise national rules were reported as having begun; in most instances, these too will base changes on the provisions of *ISBD(ER)*. Revision of *AACR2* was initiated with the appointment in early 1998 of a task force by the American Library Association's Committee on Cataloging: Description and Access to recommend amendments to incorporate

features of (*ER*), but the rule revision process is labor intensive and publication of approved revisions is not likely until 2000 or later. In other cases, staff at the NBAs are using *ISBD(ER)* in conjunction with existing national rules or *AACR2*. In all but a few cases, respondents felt that the cataloguing rules used in-house provided adequate guidance for preparation of bibliographic entries for electronic materials.

Bibliographic descriptions for electronic resources may be shorter, fuller, or about the same as those for other materials, depending on the rules and policies followed by the NBA. When asked for information regarding their practices, none of the respondents indicated that their staff were producing briefer records for these materials, while nine reported that their entries were more extensive due to the technical features of the medium which they include in descriptions for them. The vast majority, however, felt that bibliographic entries for electronic resources were more or less the same as those for other publications, noting that the level of cataloguing is the same regardless of the physical format.

Given the intangible nature of electronic publications, where the content is usually not accessible without machine manipulation, the Survey sought to learn the sources of information used by staff at NBAs for the entries they devised. Table 4 reveals the response to this inquiry, with most replies indicating use of more than one approach to obtain the necessary information.

Table 4

Source(s) of information used for descriptive entries	Number of NBAs reporting
From information within the material itself	33
Through examination of material on the Internet	12
From information supplied by publishers	22
From Dublin Core metadata supplied by the creator	5

As with most other kinds of non-book publications, users of national bibliographies often expect to be alerted to the nature of the format when encountering entries for electronic materials. Such notification can be handled in a variety of ways - by including within the bibliographic description the General Material Designation and/or Specific Material Designation or by giving the information in a note; in the case of the machine-readable version of the national bibliography, this information can also be conveyed by giving a code or tag in the fixed field portion of appropriate records. When asked to indicate the techniques their national bibliographies employed to alert users to electronic materials, respondents revealed multiple approaches in most cases, as indicated in Table 5.

Table 5

Identification technique used	No. of respondents reporting use
Giving General Material Designation	25
Giving Special Material Designation	24
Giving information in notes	20
Giving code or tag	21

Remote Access Electronic Resources

Because of the proliferation of electronic documents on the World Wide Web and through the Internet, a recent development which introduced many new bibliographic and other related problems, the Survey included a series of questions intended to focus on materials available through remote access. As Table 1 above indicates, 17 national bibliographic agencies report coverage of such materials; however, only 14 of these supplied information with regard to these specific questions. As for future coverage of remote access electronic resources in particular, nearly 20 NBAs indicated decisions to do so or are seriously exploring the possibility.

First, respondents were asked to advise as to whether their national bibliographies provide separate entries for remote access resources which are the same or similar to material in another format, e.g. as a printed publication. Almost all reporting NBAs replied to this question in the affirmative, thereby establishing a preference for separate bibliographic entries for various manifestations of the publication. In one case, the respondent indicated that a Universal Resource Locator (URL) is added as a note to the bibliographic entries for printed publications in lieu of separate bibliographic entries, while in two other cases, respondents indicated that a separate entry is originated but the entry for the other version is amended to include the appropriate URL to link it to the electronic version.³

Next, respondents were queried as to whether their cataloguing staff encountered particular difficulty in ascertaining any of the data elements to be included in

descriptions for remote access works. Several replied in the affirmative, citing especially (1) determination of the chief source of information to be used for the description; (2) "imprint" information, such as place and date of "publication"; (3) dealing with differences which affect the appearance of the publication depending on particular format (e.g. PDF, HTML); (4) discovery of the title proper, giving a variety of titles to choose from among in the case of many remote access publications; (5) identification of editions, given dynamic nature of remote material; (5) lack of numbering for remote versions of serials, which are often more in the nature of data base. For the most part, the "fluidity" of remote access materials results in cataloguers' difficulties in describing them.

In particular, information regarding the URLs for electronic publications was considered subject to change and therefore more likely to be unreliable in terms of a data element within the bibliographic record. Nevertheless, all respondents reported that such information is routinely given in the case of remote access material. (In some cases where the national bibliography is available in machine-readable form, mention was made of "hot links" by which users might access the material directly from the URL in the bibliographic record). But, because of the highly labor intensive nature of catalogue maintenance work, only two respondents indicated a policy to continuously monitor the reliability of URL information, although a few cited the possibility of utilizing programmatic approaches to the task which are now under development. Others reported that they might update this data element if necessary when encountered or when the issue was brought to attention by

way of "error reports" from publishers, the public or staff.

Research Projects and Investigations

The Survey concluded by inviting respondents to indicate research in which staff of the NBA might be engaged as related to bibliographic control and access to electronic resources and to provide citations to any resulting publications. This request elicited a substantial amount of information about several projects undertaken or in development on the topic, but especially as related to remote access material. These projects and other related material derived independently by the author will be fully described in the final version of this report to be presented at the IFLA Conference in Bangkok in August 1999 and which will be appear beforehand on the IFLANET.

In the meantime, the following URLs provide links to Web sites and electronic publications where the visitor may discover important information on the topic:

<http://lcweb.loc.gov/rr/business/beonline/beohome.html> (Project Beonline, Library of Congress, USA).

<http://www.nla.gov.au/nla/staffpaper> (Research on archiving and long-term access, Australia).

<http://hosted.ukoln.ac.uk/biblink> (BIBLINK Project, European Union).

<http://www.dbiberlin.de/projekte/einzproj/meta/meta00.htm>;

<http://www.dbi-berlin.de/homepage.htm>;

<http://www2.sub.unigoettingen.de/>;

<http://www.dfg.de/english/index.html>
(Metadata initiatives, Germany),

<http://purl.dk/rapport/html.uk/biblink/>
(Project INDOREG, Denmark),

<http://www.oclc.org/oclc/man/9256cat/toc.htm>
(InterCat Project, OCLC, USA).

http://lcweb.loc.gov/catdir/cpso/elec_res.html
(National Digital Library, USA).

Acknowledgment

The author would like to take this opportunity to express deep gratitude to the 55 participating National Libraries and Bibliographic Agencies who cooperated in this study. The time and effort they devoted to completing the questionnaire are greatly appreciated.

Endnotes

1. From Denmark, replies were received from both the Royal Library and the Danish Library Centre.
2. Munchen: K. G. Saur, 1997 (UBCIM publications; N. S. vol. 17)
3. Regarding archiving policy, one respondent indicated that the practice is not to "collect" any electronic resources where in-print versions provide an alternative form.

National Bibliographic Agencies and the Book Trade

Ross Bourne

British Library National Bibliographic Service

Despite the development of the Internet in the last few years it is unlikely that there would be any dissent from the statement that libraries are dependent on the book trade. Although the Internet is making us rethink the very nature of publishing, I suspect that for all but some very specialised libraries (which probably call themselves documentation or information centres) the publisher/library relationship is still more or less what it has always been and it is likely to remain so. In other words, there is a chain or continuum that starts with a publisher, continues with a manufacturer, a distributor, a retailer and ends with a library. And more: at one extreme there is an author or authors, and at the other a library user. The individual elements of this continuum may or may not always present - for example, some publications may not go through a retailer, or the publisher may also be the manufacturer - but what is outlined above is mostly true, at least as far as mainstream libraries are concerned. Whether this continuum is recognised outside the library community is, however, another matter. The underlying assumption is that bibliographic information may be shared and enhanced along the continuum, but it is possible that many publishers and retailers regard their bibliographic systems as quite adequate for their needs, requiring no external input.

At its 1995 meetings during the Istanbul conference, IFLA's Section on Bibliography agreed that a survey should be conducted into the relationships between national bibliographic agencies¹ and the book trade². The aim of the survey would be to obtain a better understanding of those relationships; arising from responses to a questionnaire, conclusions would be drawn and recommendations developed that could be fed into a further project to establish guidelines for developing better relationships between the two sectors. The author of this article agreed to undertake the survey. In this task he was assisted

by two junior professional librarians, Mr S Bagley and Mr I Jacklin; they carried out the analysis of the returned questionnaires, and the author would like both to thank them for their help but also to stress that the conclusions and recommendations are his and his alone.

A questionnaire was devised in consultation with Standing Committee members of the Section on Bibliography. When refined and finalised, this questionnaire asked 24 questions covering five areas where national bibliographic agencies or NBAs interact with the book trade: book trade co-operation, legal deposit, cataloguing-in-publication, standard numbering and books-in-print catalogues. The mailing list of the Conference of Directors of National Libraries was used as the basis for the survey, and out of 135 questionnaires sent out 48 (35.5%) were returned. These break down on the following continental basis:

Africa	10	Europe	24
Asia	7	North America	1
Australasia & Oceania	0	Latin America & Caribbean	6

Without identifying those NBAs that did not return their questionnaires (or perhaps did not receive them: postal and administrative vagaries cannot be anticipated, and time did not allow a follow-up letter), the author is satisfied that this response is reasonably representative of a range of national book and library cultures. In Europe, for example, questionnaires were returned from both west and east, including former USSR countries. Although the returns from Africa, Asia and Latin America were patchier, those NBAs that did respond were well spread out in both geographical and cultural terms.

The first group of questions concerned book trade co-operation. These responses are summarised³

- All but 13 respondents replied that formal contact was maintained with book trade bodies. However, amongst those 13 were two major NBAs (France and the United States).
- In answer to the question of with what book trade bodies NBAs were in formal contact, publishers' associations attracted most responses (25), followed by other bibliographic agencies (11). Other forms of contact included joint bodies⁴ (10) and individual publishers (8).

- The most popular topic for discussion at these formal meetings was, predictably, legal deposit (30). Amongst other topics were common standards such as MARC (12), copyright (10), photocopying (8) and electronic communication (7).
- Correspondence accounted for the most common form of communication (27), followed by *ad hoc* meetings (26). Regular meetings *per se* are not as common (8).
- Responses to questions on whether contacts with book trade bodies could be improved or whether formal contact could be useful were mostly affirmative, but a small number of respondents did reply negatively.
- Respondents were given an opportunity to express themselves on how NBA/book trade relationships might develop. Since this question is at the heart of the survey, their answers are covered at the end of this report.

The next batch of questions concerned legal deposit. What emerged in replies to this section of the questionnaire was that a number of NBAs rely on more than one form of acquisition. Five questions were asked; the answers are summarised as follows.

- While legal deposit is by far the commonest form of acquisition, voluntary deposit plays a significant role⁵. Purchase is used by about 50% of all respondents; some specified that it was employed for the completeness of their collections. Gift and exchange was also mentioned, rather more by non-European than European NBAs (10 to 3).
- By far the commonest source of material for both areas is deposit by individual publishers. Agents and retailers (including library suppliers) account for 10, while in some European countries printers constitute either the sole or an additional source of deposit.
- Predictably, printed material constitutes the type of material most received under legal deposit. films and video, 17; sound recordings, 24; and handheld electronic items, 15. Nevertheless, this suggests that not much more than 50% of NBAs are at present able to receive non-print material. Some respondents, including the United Kingdom, noted that new legislation to extend legal deposit coverage beyond printed material was planned; in this respect,

microforms was inadvertently omitted from the check-list but was picked up by a few respondents under the "other" category.

- In answer to the question of how effective respondents judged their legal deposit system, all but a few thought it either fairly effective (70-84%: 22) or very effective (85% and over: 19). On the other hand, 8 NBAs recorded their effectiveness as less than 70%, including 4 as poor (39% and less).
- Almost all NBAs systematically claim and reclaim items not received.

Three questions on Cataloguing-in-Publication were asked. Surprisingly to this author, the answers indicated clearly that CIP was not as widespread as he had supposed, as indicated below.

- NBAs operating CIP programmes numbered only 11 out of the 48 respondents. Amongst the absentees were countries where one might have expected to find CIP flourishing, including Denmark, France and the Netherlands.
- Amongst those NBAs which did operate CIP programmes, the chief source by far for the information was the publishing industry itself.. those NBAs themselves produced the CIP data, although two NBAs, including notably the United Kingdom, reported having subcontracted the task to an external agency.
- Three NBAs reported very effective (i.e. 85% and higher) coverage, while a further 3 reported coverage as only fairly effective (70-84%), 1 not very effective (40-69%) and 4 poor (39% and less).

A set of questions related to the assignment of the International Standard Book Number (ISBN) and International Standard Serial Number (ISSN) systems.

- Twenty-six NBAs issue ISBNs themselves. Book trade bodies issue them in 9 countries⁶, while in 6 cases ISBNs are issued outside the country.
- Twenty-six NBAs issue ISSN, while in 11 countries they are assigned externally.
- Both numbering schemes may be issued by library bodies other than the NBA: 4 in the case of ISBNs and 6 in the case of ISSNs.
- A number of those NBAs not themselves issuing either ISBNs or ISSNs commented on

their relationship with those bodies which did issue them. These comments are summarised later in this report.

The final group of questions concerned Books-in-Print catalogues. Despite the best of intentions, however, there was a lack of precision in some of the questions, which resulted in a certain ambiguity in the answers. Nevertheless, the following points emerged.

- Eighteen NBAs answered positively to the question on whether availability of the current imprint was recorded in their countries and 14 answered negatively.
- Amongst those NBAs which answered positively, 2 NBAs (Singapore and Tanzania) reported that the recording of books-in-print information was one of their functions, with most other NBAs reporting that the information was collected elsewhere, which for the most part was either the national publishers association (5) or some other agency (7).
- A minority of NBAs (5) maintained links with the national books-in-print operation, through the provision of bibliographic data.
- A majority of NBAs (26) foresaw a demand for a national books-in-print operation, while 17 did not. However, in the case of some NBAs a contradictory statement was made here when compared with the answer given to the first of these questions.

Two questions were asked requiring the NBA to express views. The second of these concerned the relationship between an NBA and what other body issued ISBNs or ISSNs; as will be seen from a previous answer, this applied to a minority of NBAs, 11 of whom responded to this question. The general drift of these answers is that co-operation does exist between NBAs and other library bodies, but also that such co-operation is often informal. However, the answers were so few that no real conclusions can be drawn. One interesting answer came from the United Kingdom: ISBNs are assigned by another agency, but although there had been co-operation some time ago in the past this was no longer the case.

The first, and major, question for which NBAs were asked to express themselves was whether they had particular thoughts on how NBA/book

trade relationships should develop. Twenty-three NBAs responded to this invitation. A number of respondents outside Europe replied that they saw the holding of workshops and seminars as an important factor in developing better relationships; and interestingly, they appeared to regard this as a role for themselves. One NBA remarked that strong national publishers and booksellers associations would need to exist first. Another NBA, operating in a multilingual country, pointed out that communication would have to be carried out in more than one language.

European responses stressed the development of links to improve not only legal deposit but also standard numbering and CIP. The Danish NBA recalled that in the past publishers had resisted the re-use of their bibliographic data, although the idea might be revived in the context of the national books-in-print operation. Practical co-operation in the marketing and selling of the national bibliography was noted by another; the Norwegian NBA had also been asked to supply standard classification numbers by a book distribution company. The possibility of regional books-in-print catalogues was raised by a few NBAs.

The following conclusions emerge therefore from this survey:

- Overwhelmingly, NBAs want to improve and develop their relationships with the book trade sector. While it is hardly surprising that such relationships are likely to be minimal in some central and eastern European countries (where in the author's experience the development of the market economy principle has not been marked by readiness to co-operate, even within the book trades themselves) and in developing countries, it appears also to be the case in some countries with stronger publishing and library infrastructures. On the whole, NBAs appear willing to take the lead in this matter, rather than waiting for the book trade to approach them.
- It could be that such relationships might fruitfully grow out of existing arrangements, e.g. when ISBN and /or ISSN allocation is a NBA function, or as part of the regular dialogue which NBAs must have with the book trade as a result of legal deposit. But the example of the UK with Book Industry

Communication (BIC) does suggest that new mechanisms can be created and work productively quite independently of contentious issues such as photocopying or legal deposit.

- Cataloguing-in-Publication appears to be a minority service, but where the service does exist it is more likely to occur in major publishing nations. There needs perhaps to be a re-examination of the value of CIP, e.g. whether the NBA is the right location or how far library-type CIP information is useful in comparison with advance information supplied by agencies or the publishers themselves.
- The relationship between the production of national bibliographies and books-in-print catalogues deserves wider examination; and indeed this has been happening to a limited extent under the auspices of the Council of Europe⁷. The responses to the questionnaire indicate that the value of establishing such a link has yet to be demonstrated.

On the grounds that many NBAs are obviously already keen to establish better links with the book trade, a safe recommendation to make would be that guidelines to assist the setting up of such links should be prepared. A project along these lines could be based on best practice as revealed in the responses to the questionnaire that led to the writing of this report. It could be undertaken relatively quickly, but would have to be reviewed - as is of course normal IFLA procedure - not only by IFLA's members but also by as many book trade bodies as possible so that the guidelines when published benefitted from a wide consensus of opinion. The suggestions for further work in the fields of CIP and Books-in-Print are not matters for the guidelines project being proposed, but nevertheless might usefully be taken forward within IFLA as separate project proposals.

Finally, the author would like to thank all those who responded to his questionnaire; he hopes that its eventual outcome will help contribute to better understanding between the two sectors. While an employee of the British Library, he stresses that responsibility for the content of this report is entirely his own.

Notes

- ¹ Defined as those bodies, usually but not always within national libraries, that are responsible for producing the national bibliography.
- ² Defined as publishers and/or retailers of both printed and non-printed items.
- ³ Note that throughout these summaries total numbers rather than percentages are given. This is not only because some questions invited multiple answers but also because some questions were left unanswered, and hence percentages would be misleading.
- ⁴ One example of a joint body is the UK's Book Industry Communication (BIC), sponsored by the Booksellers Association, the Library Association, the Publishers Association and the British Library and set up to further the development of electronic communication amongst the various book industry sectors.
- ⁵ It is worth noting that The Netherlands - alone amongst European respondents - relies entirely on voluntary deposit and Germany depends on voluntary deposit to obtain German language material from Austria and Switzerland. The Netherlands, however, reported under a later question that they judged their coverage as only fairly effective, i.e. 70-84%, compared with most of their European counterparts.
- ⁶ In Switzerland, ISBNs for French and Italian books are the responsibility of agencies in Paris and Milan respectively.
- ⁷ *Books in Print catalogue for Baltic republics, Estonia, Latvia, Lithuania: feasibility study* / IBA (International Book Agency) Schmidt-Braul & Partner. [Strasbourg]: Council of Europe, 1996 (cc/livre (96) 20).

THE IFLA SECTION ON CATALOGUING

Ingrid Parent

Chair, IFLA Section on Cataloguing

The IFLA Section on Cataloguing is very pleased to participate in and support the holding of this International Conference related to national bibliographic services. The work of the section is intimately tied to the content of national bibliographies, which has been the case since the founding of the Section.

The Section on Cataloguing was created in 1935 as the Committee on Uniform Cataloguing Rules. In 1970 the Committee on Uniform Cataloguing Rules became the Committee on Cataloguing, which in 1976, became the Standing Committee of the Section on Cataloguing. Since its inception the Section has been at the centre of international developments in cataloguing theory, activities, and standards development.

Scope

The Section on Cataloguing analyzes the functions of cataloguing activities for all types of material and media, including both bibliographic and authority information, for the benefit of all users. The Section proposes and develops cataloguing rules, guidelines and standards for bibliographic information taking into account the developing electronic and networked environment in order to promote universal access to and exchange of bibliographic and authority information. The Section has close relationships with many organizations and institutions including national cataloguing and standardization committees, various multinational organizations, various committees of ISO, especially with TC46, with the Sections on Bibliography, Classification and Indexing, and

Information Technology, and in particular with the UBCIM programme office of IFLA.

Projects

The most important, widespread and lasting achievement of the Section on Cataloguing has been the development of the various International Standard Bibliographic Descriptions (ISBDs): for monographs(M), serials (S), cartographic materials (CM), non-book materials (NBM), printed music (PM), antiquarian publications (A) and computer files (ER), formerly (CF). These standards have been accepted world-wide and are used directly as cataloguing rules or form the basis for many national cataloguing codes. These standards, also of course, form the basis of the cataloguing records that appear in almost all national bibliographies. An ISBD Review Group ensures that the various ISBDs are updated on a regular basis and that new ones are developed if necessary.

A major project that was completed by the Section in 1998 was the Study on Functional Requirements for Bibliographic Records which delineates the full range of functions performed by the bibliographic record, and proposes a basic bibliographic record to be used by national bibliographic agencies. Follow-up studies are being undertaken both by the Section on Cataloguing as well as by various user communities to assess and implement the recommendations of the Functional Requirements Study. National libraries and national bibliographic agencies should note the recommendations of this study, in particular as they relate to the content of bibliographic records which appear in national bibliographies. In addition a recommendation is made on the content for a Basic bibliographic record which would be the most minimal record that could be created and shared among national bibliographic agencies.

The Section is also providing leadership in the development of various standards and guidelines related to bibliographic activities such as corporate name headings, authority entries, OPAC displays, and metadata standards. Standardized headings and descriptions contribute to the enormously successful programme of universal bibliographic control, allowing the exchange and integration of bibliographic records around the world.

With the increasing prevalence of both electronic content and electronic technical infrastructure, the Section is ensuring that there are appropriate guidelines for organizing the expanding amount of digital resources, as well as exploring opportunities for distance learning of cataloguing activities.

We hope that the recommendations of the conference will confirm and facilitate even more the creation and exchange of bibliographic information.

Our best wishes for a successful conference.

Subject retrieval in national bibliographies

I.C. McIlwaine
Lois May Chan

Subject retrieval in national bibliographies cannot be satisfactorily considered outwith a specific national context and a given set of circumstances. In the abstract, its value is unquestionable, but in concrete terms, the kind of subject retrieval must depend upon what kind of bibliographic listing and what specific national requirements are envisaged. The coverage, and not least the quantity of material, the publication format, the function, local circumstances such as the number of national languages and above all the cost of such provision must all be weighed in the balance. In addition, while the desirability of some form of subject access may be considered essential, the precise form that that access takes is also problematical, especially in a climate seeking to achieve the goal of Universal Bibliographic Control.

The 1977 Conference on national bibliographies made the following recommendations in its report relating to subject organization in section 3, which deals specifically with the printed national bibliography:

- Indices (cumulated annually) covering complementary arrangements to that of the main text
- Include an outline of the classification scheme (if used)
- the current issues should be arranged in classified order in accordance with a stated internationally used classification scheme

Section 7 which is concerned with international information systems is also of relevance to the matter. It recommends:

- that studies be made of the utilization of records produced for national

bibliographies as national input to some information systems and vice versa

- that greater efforts at national and international levels be made to ensure compatibility between the bibliographic practices of the library and information communities

In the intervening twenty years much has happened and much that was recommended at that conference relates simply to a paper-based record covering the national bibliographic output in the widest sense (though at that time the width that is today under debate was not envisaged, viz; that material on the WWW constituted an important element in the national output and needed to be recorded). In formulating the ideal of universal bibliographic control in the early 1970s, certain parameters concerning "publications" were taken for granted. These included manageable volume of national output, the definite forms and permanence of publication (books, serials, audio-visual materials), provenance and languages.

Content and coverage

The content and the coverage will have a direct effect on the type of subject access that may be seen to be desirable. At the present time the decision as to what constitutes the literary output (in the widest sense) of a nation is a subject for debate. The 1977 conference on national bibliographies identified three categories of materials for inclusion, in descending order of importance. The recommendations from that conference open with a section on legal deposit. The legal deposit laws of many countries are at present being overhauled and extended to include a much wider range of materials in a far greater variety of formats. This has implications both for the national libraries which act as the depositaries for such materials and for the national bibliographies which list the output of so vast a range. Traditionally, monographs,

serials, official documents, etc. have been given priority, with material like theses, maps and music or publications in Braille coming much lower down the list of priorities. Different nations have handled these materials in different ways and many, such as France, have adopted an approach whereby the straightforward material is included in a weekly listing, with the more "difficult" material being reserved for a less frequent publication. Some national bibliographies list the contents of journals and here again the provision of subject approach is essential.

Nowadays, in addition to materials appearing in hard copy of some kind, including videos, recordings and so on, and even computer files - all of which may be described as tangible, material that is published on the Internet is being discussed as appropriate for the national listing. Such material is frequently difficult to assign authorship to and its origins are not always clear. It is also ephemeral by nature. If such material is to be considered part of the national bibliographic record, the easiest way to access much of it is via some kind of internationally recognized system of subject access.

In the electronic environment, particularly within the context of Internet and the World Wide Web, the nature of information and the forms in which it appears present a number of challenges to those engaged in the work of national bibliographies. Among these are:

1. Volume: the sheer amount of information that presents itself is staggering
2. Volatility: Electronic information, when existing in digital form only, is volatile and extremely difficult to pinpoint
3. Form-definition: the definition of bibliographic forms such as books, manuscripts, serials, sound recordings that exist in the print environment is no longer sufficient in the electronic environment. There are many more forms and some of them can not be precisely defined

4. Unit-definition: Much of digital information does not come in definable packages. Even when it does, it is often not self-contained. Hyperlinks further blur the distinctive units of information. How does one define an "entry?" Is it still a viable unit marker in a bibliography?
5. National-boundary-definition: With the global nature of Internet and WWW, how can one say for sure that a particular piece of information comes from a particular nation. Does a web site posted by a Canadian while in South Africa belong in the national bibliography of Canada or South Africa? Furthermore, the origin is often not ascertainable
6. Language-definition: In addition to languages defined by cultural terms, there are also other types of languages, such as machine language and special scientific and technical languages used by people in various disciplines.

Within this emerging context, subject access, i.e., classification and subject indexing in particular, in national bibliographies, must be enhanced and perhaps re-evaluated, if electronic information, particularly what is available on the World Wide Web, is to be included in national bibliographies.

At the present time attempts at subject retrieval on the Web take the form, broadly speaking, of

- Keyword searching
- Broad classification used by search engines
- Metadata defining basic elements in resource description with fields for subject data

However, the nature and form of subject data are still undefined.

Format of the national bibliography

Another influencing factor that must be borne in mind is the format in which the national bibliography is published. Traditionally, this

has been hard copy but nowadays some national bibliographies, for instance the Malaysian, are being published only in machine-readable format. This again may have implications for the subject approach since a bibliography so published may easily be searched via words in titles. (The usefulness of such a form of access will be considered later). Publication in machine-readable form only poses problems for many. Not all countries have the necessary equipment for such a format nor is it necessarily the most useful way to produce the listing, though it may well be the most economic.

Function of the national bibliography

The format also has implications for the use to which the national bibliography may be put. If it is to be used for stock selection or for browsing to see what has been published on a particular topic, it is much easier to handle in hard copy. It is also much more effective for such purposes if it is arranged in some sort of subject order. If it is to be used as a source for cataloguing information, a machine-readable format that can be downloaded into individual catalogues has many advantages, but so does a record that includes some points of subject access that correspond to those most commonly found in the national library community.

Types of subject access

Subject access may be through two different approaches - the purely verbal and the systematic (normally a widely-used classification scheme). These approaches are not mutually exclusive and ideally both should be provided. Recommendation 5 of the 1977 conference stated that the national bibliographic agency should consider the adoption of an internationally used classification scheme for the records it generates and that it should ensure that training courses are provided within the

country to instill the use of subject approach¹. Anderson recommends that national requirements, differing functions and users' needs must be paramount when considering the subject approach. She correctly points out that one of the major problems in attempting any kind of subject approach is that knowledge is not static and she highlights the problems of finding a universally acceptable subject approach. The participants in the 1977 conference were all agreed that it was necessary to provide a subject approach and they were equally agreed that it was impossible to find a universally acceptable system. This is the explanation for the rather vague wording of the third recommendation:

“The current issues of the printed national bibliography should be arranged in a classified order in accordance with a stated internationally-used classification scheme and the arrangements of the cumulations should be at the discretion of the national bibliographic agency”²

The implications of this statement are that subject access should be provided via the system that is most commonly found in the national library community. Provision of a particular form of subject access does not presuppose that the national bibliography must be arranged by that system, nor does it imply that only one system should be used. A number of national bibliographies provide subject information using more than one system. The Indian national bibliography, for example, is arranged by the Dewey Decimal Classification, but also provides Colon classification classmarks. The Canadian National Bibliography is arranged by the Dewey Decimal Classification but provides Library of Congress class marks in addition to Library of Congress Subject Headings for English material and the Répertoire de vedettes-matière published by the Université Laval for French material.

Problems of language

This last is a good example of the virtues of subject access and demonstrates the limitations that would derive from relying solely on the facility to search machine-readable records on words in titles. Where there is more than one national language (and India must be the prime occurrence of such an instance) the use of a standard subject approach, whether a widely used classification scheme or a subject headings list, provides access that can rise above language in titles. The facility to search in an online situation on words in title enhances the value of such a format. The addition of some form of subject heading, such as those used in the Library of Congress enhances the retrieval of subject information via words. The use of a classification system provides access that rises above vocabulary in one particular language and also greatly facilitates the printing out of subject bibliographies or lists of references on a specific subject.

The range and varying formats of material and the requirement of international exchangeability of records seem fundamental to the use of some form of subject retrieval, and preferably one that is not dependant on words alone, so that barriers of language can be crossed. It is also relevant to consider whether more than one type of subject retrieval might not be appropriate. Many national bibliographies provide more than one. For 20 years the British National Bibliography used the Dewey Decimal Classification and a PRECIS index, and for part of that period it was also assigning LCSH to its records.

The physical arrangement of the bibliography is often seen as of less importance in a world of online access, but it will remain fundamental for many years to come. Firstly, there are many countries in the world who still have no national bibliography or who lack the funding to create a totally online record of the

national output. Secondly, it is very helpful to use the national bibliography, or a range of national bibliographies, to create subject bibliographies and listings, and the same is also true for the creation of a listing of particular formats, e.g. all videos, or all videos on pollution, etc. and here the use of some form of classification eases the task considerably.

Economic factors

But the provision of subject information is expensive and the greater the range of alternative systems used, the more expensive the exercise becomes. The history of the BNB's index, in its changes from chain indexing, to PRECIS to COMPASS and now abbreviated headings taken from the Dewey Decimal Classification tables is a good example of the diminution of easy subject access. At the present time, it is so reduced that unless one is familiar with the Dewey Decimal Classification sections of it become totally unusable; for instance the following random examples appear in the May to August cumulation, with no qualification whatsoever:

Criticism	111.85	Employee motivation	302.35
	191		331.21
	306.01		658.30089
	410		658.314
	801.95		658.31423
	809		
	809.93355		
	839.7472		

Forms of material

Some system of subject access will also normally enhance the information provided in the bibliography by indicating the form of publication. Most classification systems (with the notable exception of the Library of Congress Classification) are equipped with an auxiliary table of forms which provides the notation to individualize whether an item is a sound recording, a video, a journal etc. The

“free-floating subdivisions” of the Library of Congress Subject headings perform a similar function. This information may, of course, be indicated in a note in the cataloguing record or may be self-evident through the listing of “difficult” material in a series of separate listings, as is done in France. Should the record be provided in a machine-readable format, that information is even more valuable, especially if it can be identified through a symbol, so that all publications in Braille or all videos on a particular topic can be retrieved readily.

Conclusion

There are strong arguments for continuing to publish, at least for the foreseeable future, a national bibliography in hard copy even if it is also published in another format. An arrangement via subject in such a publication enhances the bibliography’s usefulness, for acquisition purposes and for the retrieval of subject requests and for the international exchange of information across language barriers. Library users are notoriously bad at providing accurate details of either author or title. The title of a book is frequently confused with the title of the review of it in a journal. Authors write under more than one name or more than one form of their name, especially when writing for the popular market. Above all, if it is considered desirable to include material published in non-traditional formats, and especially material that has appeared on the Net, some sort of subject arrangement becomes even more imperative.

Matters for urgent consideration include

- Contents of national bibliographies. Should they be selective, by necessity of the sheer volume of information available?
- Standards should no longer be monolithic, but allow multiple systems that are compatible and translatable. The meaning and context of standardization must be reconsidered - no longer "a" subject

approach, but many compatible ones that can be integrated when needed

- Classification and subject indexing terms must be user-oriented and intuitive-compatible with search vocabulary. Classification has great potential as a navigational and retrieval tool
- Controlled vocabulary remains a real challenge. Assigning controlled vocabulary terms to all information is no longer an option. A possible solution might be to shift the burden of synonym and homonym control to the interface.

In 1977 the recommendation of one system that should be used for the arrangement of a national bibliography was deliberately avoided.³ It was felt that the Dewey Decimal Classification had widespread acceptance in many parts of the world, but not in Europe. It was also not considered to be capable of providing sufficient specificity for specialist publications. The Universal Decimal Classification, on the other hand was not considered sufficiently widely used by specialist services to make it a viable alternative. There have been many improvements in both classifications in the intervening twenty years, and the adoption of the Dewey Decimal Classification for the organization of the collections in the Bibliothèque de France and in the new British Library both bear witness to the increased popularity of that scheme, though it still remains a closed book in large sections of Eastern Europe, for example. In addition, those countries whose languages are not likely candidates for translation by Forest Press/OCLC, such as Croatia or Romania, are precisely those countries which find it difficult to maintain a national bibliography, without the added complication of having to use an unfamiliar classification, and one that is not used by the national library community. This militates against the international exchangeability of records across subject barriers. One possible solution might be a

concordance between the Dewey Decimal Classification and the UDC, but that is beyond the terms of reference of the present conference and should be addressed by the two schemes themselves.

It seems difficult for the conference to recommend one system in the way that it can recommend one set of rules for author title description and the creation of a standard similar to an ISBD for subject description is something that has already been an unsuccessful endeavour over the past one hundred and twenty years. This does not, mean, however, that the issue should be avoided and it would be most unfortunate for no form of subject access to be recommended as the result of the projected meeting.

Notes

- ¹ Anderson, D. UBC: a survey of universal bibliographic control, London, IFLA Office for UBC, 1982, p. 21.
- ² International Congress on National Bibliographies, organized by Unesco, in collaboration with IFLA, Paris, 10-15 September 1997. *Final report* (PGI - 77/Conf. 401/Col.11), Unesco, Paris, 1978, p. 12.
- ³ Anderson *Op cit.* p. 21.

Subject retrieval in national bibliographies

I.C. McIlwaine
Lois May Chan

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country to instill the use of subject approach¹. Anderson recommends that national requirements, differing functions and users' needs must be paramount when considering the subject approach. She correctly points out that one of the major problems in attempting any kind of subject approach is that knowledge is not static and she highlights the problems of finding a universally acceptable subject approach. The participants in the 1977 conference were all agreed that it was necessary to provide a subject approach and they were equally agreed that it was impossible to find a universally acceptable system. This is the explanation for the rather vague wording of the third recommendation:

“The current issues of the printed national bibliography should be arranged in a classified order in accordance with a stated internationally-used classification scheme and the arrangements of the cumulations should be at the discretion of the national bibliographic agency”²

The implications of this statement are that subject access should be provided via the system that is most commonly found in the national library community. Provision of a particular form of subject access does not presuppose that the national bibliography must be arranged by that system, nor does it imply that only one system should be used. A number of national bibliographies provide subject information using more than one system. The Indian national bibliography, for example, is arranged by the Dewey Decimal Classification, but also provides Colon classification classmarks. The Canadian National Bibliography is arranged by the Dewey Decimal Classification but provides Library of Congress class marks in addition to Library of Congress Subject Headings for English material and the Répertoire de vedettes-matière published by the Université Laval for French material.

Problems of language

This last is a good example of the virtues of subject access and demonstrates the limitations that would derive from relying solely on the facility to search machine-readable records on words in titles. Where there is more than one national language (and India must be the prime occurrence of such an instance) the use of a standard subject approach, whether a widely used classification scheme or a subject headings list, provides access that can rise above language in titles. The facility to search in an online situation on words in title enhances the value of such a format. The addition of some form of subject heading, such as those used in the Library of Congress enhances the retrieval of subject information via words. The use of a classification system provides access that rises above vocabulary in one particular language and also greatly facilitates the printing out of subject bibliographies or lists of references on a specific subject.

The range and varying formats of material and the requirement of international exchangeability of records seem fundamental to the use of some form of subject retrieval, and preferably one that is not dependant on words alone, so that barriers of language can be crossed. It is also relevant to consider whether more than one type of subject retrieval might not be appropriate. Many national bibliographies provide more than one. For 20 years the British National Bibliography used the Dewey Decimal Classification and a PRECIS index, and for part of that period it was also assigning LCSH to its records.

The physical arrangement of the bibliography is often seen as of less importance in a world of online access, but it will remain fundamental for many years to come. Firstly, there are many countries in the world who still have no national bibliography or who lack the funding to create a totally online record of the

national output. Secondly, it is very helpful to use the national bibliography, or a range of national bibliographies, to create subject bibliographies and listings, and the same is also true for the creation of a listing of particular formats, e.g. all videos, or all videos on pollution, etc. and here the use of some form of classification eases the task considerably.

Economic factors

But the provision of subject information is expensive and the greater the range of alternative systems used, the more expensive the exercise becomes. The history of the BNB's index, in its changes from chain indexing, to PRECIS to COMPASS and now abbreviated headings taken from the Dewey Decimal Classification tables is a good example of the diminution of easy subject access. At the present time, it is so reduced that unless one is familiar with the Dewey Decimal Classification sections of it become totally unusable; for instance the following random examples appear in the May to August cumulation, with no qualification whatsoever:

Criticism	111.85	Employee motivation	302.35
	191		331.21
	306.01		658.30089
	410		658.314
	801.95		658.31423
	809		
	809.93355		
	839.7472		

Forms of material

Some system of subject access will also normally enhance the information provided in the bibliography by indicating the form of publication. Most classification systems (with the notable exception of the Library of Congress Classification) are equipped with an auxiliary table of forms which provides the notation to individualize whether an item is a sound recording, a video, a journal etc. The

“free-floating subdivisions” of the Library of Congress Subject headings perform a similar function. This information may, of course, be indicated in a note in the cataloguing record or may be self-evident through the listing of “difficult” material in a series of separate listings, as is done in France. Should the record be provided in a machine-readable format, that information is even more valuable, especially if it can be identified through a symbol, so that all publications in Braille or all videos on a particular topic can be retrieved readily.

Conclusion

There are strong arguments for continuing to publish, at least for the foreseeable future, a national bibliography in hard copy even if it is also published in another format. An arrangement via subject in such a publication enhances the bibliography’s usefulness, for acquisition purposes and for the retrieval of subject requests and for the international exchange of information across language barriers. Library users are notoriously bad at providing accurate details of either author or title. The title of a book is frequently confused with the title of the review of it in a journal. Authors write under more than one name or more than one form of their name, especially when writing for the popular market. Above all, if it is considered desirable to include material published in non-traditional formats, and especially material that has appeared on the Net, some sort of subject arrangement becomes even more imperative.

Matters for urgent consideration include

- Contents of national bibliographies. Should they be selective, by necessity of the sheer volume of information available?
- Standards should no longer be monolithic, but allow multiple systems that are compatible and translatable. The meaning and context of standardization must be reconsidered - no longer "a" subject

approach, but many compatible ones that can be integrated when needed

- Classification and subject indexing terms must be user-oriented and intuitive-compatible with search vocabulary. Classification has great potential as a navigational and retrieval tool
- Controlled vocabulary remains a real challenge. Assigning controlled vocabulary terms to all information is no longer an option. A possible solution might be to shift the burden of synonym and homonym control to the interface.

In 1977 the recommendation of one system that should be used for the arrangement of a national bibliography was deliberately avoided.³ It was felt that the Dewey Decimal Classification had widespread acceptance in many parts of the world, but not in Europe. It was also not considered to be capable of providing sufficient specificity for specialist publications. The Universal Decimal Classification, on the other hand was not considered sufficiently widely used by specialist services to make it a viable alternative. There have been many improvements in both classifications in the intervening twenty years, and the adoption of the Dewey Decimal Classification for the organization of the collections in the Bibliothèque de France and in the new British Library both bear witness to the increased popularity of that scheme, though it still remains a closed book in large sections of Eastern Europe, for example. In addition, those countries whose languages are not likely candidates for translation by Forest Press/OCLC, such as Croatia or Romania, are precisely those countries which find it difficult to maintain a national bibliography, without the added complication of having to use an unfamiliar classification, and one that is not used by the national library community. This militates against the international exchangeability of records across subject barriers. One possible solution might be a

concordance between the Dewey Decimal Classification and the UDC, but that is beyond the terms of reference of the present conference and should be addressed by the two schemes themselves.

It seems difficult for the conference to recommend one system in the way that it can recommend one set of rules for author title description and the creation of a standard similar to an ISBD for subject description is something that has already been an unsuccessful endeavour over the past one hundred and twenty years. This does not, mean, however, that the issue should be avoided and it would be most unfortunate for no form of subject access to be recommended as the result of the projected meeting.

Notes

- ¹ Anderson, D. UBC: a survey of universal bibliographic control, London, IFLA Office for UBC, 1982, p. 21.
- ² International Congress on National Bibliographies, organized by Unesco, in collaboration with IFLA, Paris, 10-15 September 1997. *Final report* (PGI - 77/Conf. 401/Col.11), Unesco, Paris, 1978, p. 12.
- ³ Anderson *Op cit.* p. 21.

Bibliographic Control Activities in Southeast Asia

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Bibliographic control activities in Southeast Asia existed as early as the 17th Century as was in the case of Indonesia and the 19th century in Thailand, although the other countries started much later. The gaps in the development of libraries in countries of Southeast Asia occurred largely due to war and the different phases of the economic development of the countries.

National libraries

Establishment

By 1964, only six out of the twelve countries of Southeast Asia had formally established their national libraries. These countries were Burma, Khmer Republic, Thailand, North Vietnam, South Vietnam and Singapore. The other remaining countries had libraries designated to function partially as national libraries. By 1974, national libraries had been established in all sovereign Southeast Asian states except Indonesia.¹ To date, Brunei still does not have a national library though Dewan Bahasa dan Pustaka is currently acting as a National Library and carrying out a few of its functions. The National Library of the Philippines, National Library of Singapore and the National

Library of Laos function both as a national and a public library.

According to the data from the *Database on Legislation Relating to National Libraries throughout the World*,² undertaken by the Lenin State Library for IFLA there were six Asian countries without relevant legislation. They are Afghanistan, Bhutan, Cambodia, Laos, Myanmar (then Burma) and Nepal. All the Southeast Asian countries except Myanmar, Cambodia and Laos, had their national libraries established through their respective legislation. The functions of these national libraries are similar to those functions set out by IFLA³ except for national libraries of Laos and Singapore.

In many Southeast Asian countries, national library activities are regulated by a specific law or a governmental decree which state the objectives and functions of the national library. As for Malaysia, its national library was established through the *National Library Act 1973 (Act 80)* which was later amended in 1987 (*A667*) to enhance its objectives and functions. The *Presidential Decree No. 11* was passed in 1989 for the establishment of the National Library of Indonesia. The National Library incorporated four libraries within the Ministry of Education and Culture, one of which, the Central Museum Library. Such a form of legislative regulation of national library activities is also used in cases where the national library is part of another institutions as the National Library of

¹ Anuar, Hedwig. The planning of national libraries in Southeast Asia. **In:** *Issues in Southeast Asian librarianship*. Gower : Information Pub., 1985, p. 3-22.

² Bagrova, L.Y. Database on legislation relating to national libraries throughout the world. *IFLA Journal* 16(3), p. 336-342.

³ Sylvester, Guy. Guidelines for national libraries. Paris : Unesco, 1987. (PGI-87/ws/17)

Cambodia which functions within the Ministry of Culture, Cambodia. As for Singapore, the establishment of Singapore National Library Board which is a part of the National Library Services was through the *National Library Board Act 1995*.

Development

The national library situation in Southeast Asia varies from country to country. The more developed countries have their national libraries better equipped and financially capable to carry out their development. The National Library of Vietnam which was started in 1917, known then as the Bibliotheque Centrale of Indochina suffered because of the war and the 18 years of total trade embargo imposed by the United States. The *US Trading with the Enemy Act* empowered the president to ban “buying, selling, trading to otherwise conducting business with the enemy or any ally of the enemy”⁴. This made programmes of book and information exchanges especially from the United States difficult and expensive as these materials had to be channeled through a third party which often took more than a year before arriving in Vietnam.

The National Library of Cambodia also suffered badly under the Khmer regime and a complete trade embargo imposed by the United States. Much of its national heritage was lost and destroyed during the war. Major libraries and archives were closed; their holdings partially destroyed with the other part of

their collections held in institutions outside the country⁵. The National Library of Laos also received insufficient budget from the government and has to depend on donations from foreign governments and international organisations. Apart from the national libraries mentioned above the national libraries of Malaysia, Singapore, Indonesia, Philippines and Thailand are better developed with well organised library programmes.

Legal deposit act

The national libraries of Malaysia, Singapore, Indonesia, Vietnam, and the Philippines act as legal depository centers of all library materials published in their own respective countries, with the passing of their own legal deposit act. Only Cambodia has not passed any legal deposit act depriving its own National Library of a comprehensive national collection.

Malaysia seemed to be more fortunate than some of its neighbours excluding Singapore and Indonesia, in terms of the legal provisions for the depository of library materials to the national library. The *Preservation of Books Act* which was passed in 1966 but was later repealed by the *Deposit of Library Material Act, 1986 (Act 331)* designated Perpustakaan Negara Malaysia as the sole Legal Depository Centre for the nation. Under the Act, publishers are required to deposit 5 copies of printed materials and 2 copies of non-printed

⁴ Gould, Sara and Judy Watkins. From palm leaves to PCs : library development in Southeast Asia. Boston Spa : IFLA Pub., 1995.

⁵ Eng Po. “The situation of the library field in Cambodia : a country report” paper presented at the IFLA/UBCIM Seminar on Bibliographic Control, Kuala Lumpur, 9-12 March 1998.

library materials to the National Depository Centre..

Under the *National Library Board Act 1995* of Singapore, Singapore National Bibliography acts as a center for legal deposit which makes it compulsory for two copies of library materials published in Singapore to be deposited with the Board⁶. In Indonesia, as early as the 17th century, there was an Act imposed on publishers of the Netherlands East Indies to submit a copy of their latest publications to the library to the National Museum Library.⁷ During the World War II, the Japanese Colonial Government (1942-1945) sent their publications to the Museum Library. They consisted mostly of Indonesian materials, in addition to several newspapers and journals printed in Japanese. However, it was only in 1990 that the *Deposit Act No. 4/1990 for Printed and Recorded Materials* came into being which made compulsory that two copies of every new title produced by the national publishing industry and/or bearing a national imprint should be submitted to and deposited at the National Library.

In Brunei, Laos, Thailand and Mynmar the situations are rather different. In Brunei, which still have no national library of its own, the *Preservation of Book Act, 1967* empowers the Brunei

Museums instead of the Dewan Bahasa and Pustaka Brunei, to collect and preserve three copies of all local publications published in Brunei. In Laos, Thailand and Mynmar, the national libraries are not the depository centres of library materials and have not been designated the legal deposit laws. The National Library of Laos whose major function is to compile and publish the national bibliography has no direct access to the deposited publications. The Department of State Publishing, Distribution, Library and Sign, which is responsible for publishing, printing and book distribution has also been designated as the government depository house. It has been issued a temporary legal depository regulation requesting all publishers to send their publications to the National Library. Prior to this, between 1975-85, all rules and regulations established for controlling printing materials including deposit law, were abolished. The National Library of Thailand acquires library materials through the provisions of the *Press Act B.E. 2484 (A.D. 1941)* and the Cabinet Resolution urging all government offices and state enterprises to send copies of all their publications to the national library. In Mynmar, the *Printers and Publishers Registration Act*, promulgated in 1962, empowered the National Library of Mynmar to receive one copy of any printed material published in the country. Every publisher has to present a copy of each publication to the Press Security and Registration Division and the office has to forward this copy to the national library. The authorities concerned will also enforce the act. The *Copyright Act*, enacted in 1911, accorded to the National Library of mynmar the privilege of accessing one legal deposit copy of every publication

⁶ Fauziah Ibrahim. *SILAS the national bibliographic database and network of Singapore : country report*. Paper presented at the IFLA/UBCIM Seminar on Bibliographic Control, Kuala Lumpur, 9-12 March, 1998.

⁷ Rachmananta, Dady. *Bibliographic control through the Indonesian National Library System : country report*. Paper presented at the IFLA/UBCIM Seminar on Bibliographic Control, Kuala Lumpur, 9-12 March, 1998.

in Myanmar, but since its promulgation there has been little enforcement.

Cambodia is the only country of Southeast Asia that have no legal deposit Act. The *Legal Deposit and Copyright Act* is still being drafted by the legal authorities with the assistance of the National Library of Cambodia.

National bibliography

Through the collection of national imprints and enactment of legal deposit laws, national bibliographies are to be compiled and published. However, not all national libraries of Southeast Asia publish national bibliographies. Some published national bibliographies are also not current and not comprehensive in its coverage. Most national libraries, excluding national libraries of Malaysia, Indonesia, Singapore and the Philippines only cover books in their national bibliographies.

National Library of Myanmar, Cambodia and Vietnam do not publish their national bibliographies due to the lack of funds and difficulties in the implementation of the legal deposit laws. The compilation of the Myanmar National Bibliography for the post-independence period (1948-1996) is still in its planning stage. However, some retrospective dissertations and bibliographies on bibliography of books published in Myanmar from 1920-1955 have been compiled.

Perpustakaan Negara Malaysia, publishes the Malaysian National Bibliography which lists all materials published in Malaysia, deposited at the National Library of Malaysia under the

Deposit of Library Materials Act 1986. The last printed edition is 4th quarter 1990. Since then retrospective compilation of Malaysian National Bibliography 1967-1988 in CD-ROM format has also been produced. Bibliographic records for materials published from 1989 onwards is accessible from our database.

In Indonesia, the task of collecting all printed materials published in the country was carried out by the National Museum Library as early as during the Dutch colonial period from the 17th century to just before the start of 2nd World War. It was taken over by the National Bibliography Centre in early 1950s. It collected and listed the imprints in *Monthly News* from 1953 to 1962 with an annual cumulative edition. The *Monthly News* changed its name to *Bibliografi Nasional Indonesia* in 1963 and its frequency from monthly to quarterly. The three quarterly issues of one year were then cumulated with the fourth quarter edition to form the annual edition. This cumulative edition was later abandoned due to budget constraint leaving the publication to be published quarterly.

Bibliographic control activities in Thailand was started as early as 1882. The first bibliography produced by the National Library of Thailand was the *Catalogue of the Books of the Royal Vajiranana Library* published in 1882. The bibliography contained 6,564 foreign book entries. However, the first National Bibliography of Thailand was only published in 1958. In 1967, the first retrospective bibliography for the period 1962-1967 was published followed by the second retrospective bibliography of 1968-1973 in 1981. In 1987, with the

cooperation of 16 major libraries in Thailand, the computerised National Bibliography was published covering publications up to 1975.

The National Library of Lao PDR has published its first national bibliography covering books published from 1967-1974. Another project to compile and print the National Bibliography of Laos from 1975-1990 has not been carried out due to lack of fund.

In Brunei, although the Preservation of Books Act was passed in 1967, the Brunei Museum's Library was only able to publish a retrospective national bibliography covering 1967-1991, in 1996.

National bibliographt on cd-rom

Presently, only Perpustakaan Negara Malaysia and the National Library Board of Singapore have published National Bibliographies on CD-ROM while Indonesian National Library is still preparing theirs. However, as have been mentioned earlier in this paper, the National Bibliography on CD-ROM published by Perpustakaan Negara Malaysia is a reproduction from print format of records covering the years 1966-1988 and perhaps later records from 1989-1993. As for Singapore, its national bibliography was first produced on CD-ROM since 1993 which superseded the print versions. Since 1993, the Singapore National Bibliography is produced in CD-ROM format. The production of the CD-ROM is cumulative and updated semi-annually.

Resource sharing of information

The most common resource sharing of Information of libraries in Southeast Asia is the inter-library loan of library materials. It allows participating libraries to share library resources irrespective of their locations within the country. National libraries in Southeast Asia carry out this function and act as liaison centre to other libraries in their own respective countries.

To encourage free flow of information, libraries in Southeast Asia carry out resource sharing of information in the form of library consortia, inter-library loan or networking. Library consortia involve cooperating cataloguing projects between libraries. The national libraries of Philippines, Malaysia, Singapore, Indonesia and Thailand have carried out these projects.

In the Philippines, the DOST-ESEP library network was set up to provide member libraries an integrated library system that they can be use and at the same time accessed through their networks. The National Library of Philippines has also set up its own Public Library Network (PUBLIN) which is the automation program of the National Library which include the National Bibliographic services program and the collection program.

Perpustakaan Negara Malaysia together with five university libraries and the Nanyang Technical Institute in Singapore carried out a shared computerized cataloguing project in an effort to develop a centralized union catalogue system in 1978. This project resulted in the creation of a *Union*

catalogue database of consortium libraries, the National Union List of Serials and the Malaysian National Bibliography. This MALMARC project ended in 1990 when member libraries decided to have their own integrated library system. However each library had downloaded their records from MALMARC databases to their own database which in turn enable libraries to share their catalogue databases via Internet or Telnet facilities. The Perpustakaan Negara Malaysia also, together with Malaysian Institute of Microelectronics system (MIMOS) jointly undertake an R & D project called JARINGAN ILMU to establish a national information network system. Perpustakaan Negara Malaysia also acts as the main body and coordinator. Information available consists of bibliography, fulltext and multimedia, access to e-mail, electronic file transfer, remote access and on-line Document Delivery System.

A network of bibliographic database was established with the setting up of the Singapore Integrated National Library System (SILAS). SILAS was conceptualised out of a proposal from the Sub-Committee on Library Automation (SCOLA) which worked under the wings of the Joint Standing Committee of the Library Association of Singapore (LAS) and the Persatuan Perpustakaan Malaysia (Library Association of Malaysia). One of the projects identified was the National Bibliographic Database Project. Among the major objectives of SILAS are to develop the national bibliographic database, provide co-operative online shared cataloguing services and facilitate co-operative acquisition and interlibrary loan services. SILAS makes available a

database containing the cataloguing records of over 7.8 million titles of monographs, audio-visual materials, computer files etc. Through its network, SILAS links most major public, academic, special and commercial organisation libraries as well as book vendors in Singapore. Its 44 local member libraries use the National Bibliographic Database for online reference searches, bibliographic verifications and copy cataloguing.

In Indonesia, an informal national information network comprising of libraries specialising in certain subject areas, started to emerge in the early 1970s. In addition, an integrated national library system was set up for the development of libraries, comprising of the national libraries, regional libraries, public libraries, school libraries, university libraries and special libraries. To date, there are about 23 library network systems available with the national library as the coordinator and secretariat of the network .

Lao and Mynmar are using CDS/ISIS for its computerisation project. There is no library networking as yet. However, In Mynmar, the Central Biomedical Library, Department of Medical Research (CBL/DMR) in the field of medicine, has already formed a cooperative network among medical libraries i.e HELLIS (Health Literature Library and Information Services) assisted by World Health Organisation (WHO). Indexes of articles from medical journals and literature and union lists of all medical libraries' holdings are being compiled and disseminated to other libraries.

The National Library of Vietnam, has established databases to facilitate the sharing of information. Database SACH (BOOKS) includes all Vietnamese books received through Legal deposit from 1986 onwards. Database SVHC (Retrospective conversion books) of all Vietnamese books published before computerization of National Library of Vietnam in 1986. The national Library is also working on the “Controlled vocabulary” and Vietnam MARC specification as a standard to be implemented by other libraries in Vietnam.

In Thailand, Thai National Information System (THAI NATIS), a national bibliographic database network was also created consisting of six member libraries specialising in specific fields such as agriculture, medical science and humanities, to facilitate exchange of information and resources. The National Library of Thailand acts as the Secretariat of THAI NATIS.

Problems and issues

Lack of fund and resources

Insufficient funds and resources are the important factors which causes disparity between national libraries of Lao PDR, Myanmar and Cambodia to national libraries of Malaysia, Singapore, Thailand and Philippines. These countries received very little budget from the government and have to depend on donation from foreign government and international organisation. For this reason, library cooperation and resource sharing in the form of networking cannot be carried out even though there are plans to implement this programme.

Computerisation

Not all national libraries are able to carry out computerisation of their bibliographical records as budget allocations are only spent on purchasing of library materials. Even if the donations received were in the form of PCs and equipment, there would not be enough budget for maintenance. National libraries of Lao PDR, Cambodia and Myanmar are unable to create databases pertaining to their collections

Legal deposit act

As have been mentioned above, there are still national libraries without legal deposit law. For this reason, comprehensive national bibliographies have not been compiled. National and cultural heritage of a particular country cannot be documented and preserved for future generations. In Laos, between 1975-85, the government abolished the deposit law and prevented the national library from publishing the national bibliography as it was believed that those materials might contain confidential information. Enforcing and implementing the act is another hassle that national libraries have to encounter. Some publishers are unaware of the existence of legal deposit laws. Publishers too are often reluctant to deposit their publications to the national libraries free of charge.

Documentation of library materials

There is little uniformity in bibliographic description of data especially in countries which have many dialects. In

Laos for example, although English, French and Vietnamese are spoken, there are another 60 dialects being spoken by the minority groups. The computer software used in the national library cannot accommodate Lao font and has to be transliterated into Roman scripts before being input into the computer.

In Myanmar, the non-standardisation of transliteration rules of Myanmar scripts for bibliographic work made it difficult for the national library to compile national bibliography. At present, computer software use for bibliographic records is not able to index and retrieve materials in Myanmar language.

In Malaysia, Perpustakaan Negara Malaysia is experiencing difficulties in documenting materials in Jawi scripts using computers as there is no computer software that accommodate this scripts. Bibliographic data in Jawi scripts has to be transliterated into Roman scripts before inputting into the database.

Conclusion

The development of national libraries in Southeast Asia varies between the more developed and the less developed countries. National libraries, especially in countries which were suffering from the aftermath of war or oppressive political system are still struggling to plan and implement library programmes. Generally, national libraries do not receive the same priority as that given to other services especially education, health and public work. Insufficient funds and resources and the lack of enforcement of Legal Deposit laws are some of the problems which hindered national library development. Despite various setbacks, these national libraries

are making considerable efforts to recover, conserve, compile and guard its national heritage and at the same time, making it accessible to their users. In view of this, there is a need to increase cooperation and resource sharing of information between the national libraries of Southeast Asia. National libraries in Southeast Asia which are more advanced in technology and resources should, together with IFLA, play the leading role in organising cooperative projects especially on bibliographic control activities. It is hoped that with the "Plan of Action" (Appendix) agreed upon at the end of the IFLA/UBCIM Regional Seminar on Bibliographic Control held in Kuala Lumpur on 9-12 March 1998, bibliographic control activities in Southeast Asia will be able to move forward and improve further.

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International Bibliographic Control as seen from perspective of libraries in Southern Africa

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The availability of country's publications in the international arena enhances national pride and cultural identity. How then does a country ensure the visibility and availability of its publications to the rest of the world? There must be ways of making known these publications for the present and future generations. Most countries in the world/internationally have enacted legislations for the collection of publications issued in their countries to ensure that the publications reach the international audience. Each of these countries which have the legal deposit legislations, have in turn appointed/designated one or more libraries as custodians of publications issued. These libraries, normally national libraries, are tasked not only to collect and preserve these publications, but also to list them in some order. This process is the beginning of bibliographic control. The listing of these information sources ideally should be done in a systematic way which helps us find our way in the enormous amount of information. By listing information sources issued in a country, then a bibliography of that country is created. This bibliography should endeavor to list all sources of information published and unpublished.

It is at this point we should start talking of the role which libraries and information centres should play in the compilation of bibliographies. Bibliographies give us information about the

existence and location of information sources regionally, nationally and internationally. The process of compiling bibliographies involves the description of information sources. The description tells us only about the author, edition, place of publication, publisher, the date of publication, form and any other particulars which are necessary to identify the source without doubt. Librarians have internationally agreed and accepted to describe information sources when compiling bibliographies in a uniform manner for the purpose which allows for co-operative sharing of information.

By listing information in a systematic and similar way, we are creating a bibliography which will be used as a bibliographic control tool since it is a device/instrument which is used for bibliographic control. Most libraries in Southern African countries compile a bibliographic entry according to the second edition of the Anglo-American Cataloguing Rules (AACR2) for each legal deposit source received by the national or deposit libraries. The subject matter of the source is also identified in the description, and is done by using the rules of a classification scheme, for example Library of Congress or Dewey Decimal Classification.

The major aim of bibliographic control is to list information sources described in a systematic manner to enable us to become aware of what information is available, and where it can be located (1) (p42). The problem of bibliographic control is the vast amount of information available in the world today. Just imagine what you see in your local bookstore, these are only a fraction of what is available for sale world-wide and is only for consumption by the general public. What happens to those sources not generally found in book shops, sources such as government publications, publications of organization, research reports, conference

proceedings, information services and worse still unpublished materials. This vast amount of information makes complete bibliographic control, i.e. Universal bibliographic control unattainable.

Unesco has played a major part in encouraging countries to contribute to the attainment of Universal bibliographic Control (UBC) by first striving for national bibliographic control. Third World countries face problems of social, political and economic nature, professional manpower for acquiring the sources and compiling bibliographic entries for them and ensuring that these bibliographies are nationally and internationally accessible. If a country is to have control over information output of the available information sources which are issued/created in that country, it needs to list/record information sources which have been published in it. This will be known as a national bibliography.

Bibliographic scenario in Southern Africa

Southern Africa being part of the developing countries, is faced with number of barriers in creating and maintaining bibliographic control (2) (p46). The expense of maintaining bibliographic control system in poor economies, manpower requirements and lack of co-operation nationally, regionally and internationally are some of the problems faced. In Southern Africa, most countries are reliant upon legal deposit sources for the compilation of national bibliographies. The legal deposit legislations in countries of Southern Africa are more or less the same, with one or two differing in what should be covered under legal deposit. I will look at each of the Southern African countries' situation. Each of the Southern African countries has designated one or two libraries as legal deposit libraries. The libraries

aim at recording the cultural heritage in their countries for present and future generations.

South Africa

In South Africa, two national libraries were designated as legal deposit libraries i.e. at State Library in Pretoria and the South African Library in Cape Town. The two libraries are responsible for the bibliographic activities, by relying upon legal deposit sources for the compilation of the South African National bibliography (SANB). Their functions are defined in the National Libraries Act, No.56 of 1985, which came into effect on 1 August 1987. The Information sources covered by legal deposit in South Africa include books, pamphlets comprising more than five pages, maps, technical reports, some government publications, periodicals, South African Bureau specifications, and microforms.

The SANB is a quarterly compilation, with the fourth quarter comprising an annual cumulation. The arrangement of the bibliography is according to Anglo-American cataloguing (AACR2) and classified using DDC. In Southern Africa, SANB is regarded as the most detailed and efficiently produced in every respect. Its frequency allows for currency as it is quarterly. The limitation in SANB is that not all government publications are included, thus leaving valuable information such as Parliamentary papers. The Act also fails to include unpublished material as well as publications by South Africans and about South Africa emanating outside South Africa.

Zimbabwe

Bibliographic activities in Zimbabwe are reliant upon the legal deposit sources for compilation of the Zimbabwe National Bibliography (ZNB).

the Libraries have been tasked to collect and preserve information sources under the Printed Publications Act, and these are the National Archives of Zimbabwe and the Bulawayo National Free Library. The compilation of the ZNB is done by the National Archives of Zimbabwe. Material covered by the legal deposit are more less the same as the South African situation, and the compilation is similar.

Other Southern African countries

The other Southern African countries include Malawi, Zambia, Botswana, Namibia and Swaziland. They also follow the same approach as in South Africa and Zimbabwe relying on legal deposit legislation in their respective countries for the compilation of National bibliographies. The main sequence consists of bibliographic descriptions according to AACR2 and classified using DDC and the sequence is accompanied by an alphabetical author/title index, and include a list of publishers.

These Southern African countries contribute to Universal bibliographic Control (UBC) through their National bibliographies. The extent to which national bibliographies are compiled depends largely on the publishing output of the country which in turn is dependent on economic development. As to what should be included in the national bibliography rests with each country's legal deposit law : whether the coverage is to be as comprehensive as possible, or whether there is to be a selection of categories of material. Usually the decision regarding comprehensive or selective coverage is the question of national imprint.

The Namibian situation is some what different. There is no legal deposit legislation in Namibia. However, efforts have been made in the past by the German Colonial Association, and recently

by Eckhard Strohmeyer to provide some coverage of Namibian publications. None of these has been particularly comprehensive or produced on a regular basis, and none of these can claim to have been intended as anything nearing a national bibliography. Strohmeyer's work covers monographs, pamphlets, and journal articles of Namibian interest, published anywhere in the world. The work Strohmeyer produces is a step in the right direction, and all what remains is to provide legal deposit law to enhance to compilation of a national bibliography.

There are constraints facing Southern African Libraries responsible for compiling national bibliographies as regards the collection and acquisition of national imprint. Although the legal deposit laws are in place, there are no mechanisms in place to ensure that publishers comply with the law. With the advent of Desktop Publishing (DTP) more and more information continue to flood the book trade. If nobody chases these up then such published material are left out of the national bibliography. Theses and dissertations from local Universities continue to be awarded which are important information sources of original work and crucial for social, political and economic development. These are often left out as they are not covered under the legal deposit legislation.

The other constraint in national imprints is that the publishers either publish titles that have been produced in the developed world already. They produce impressions of books, hence there are not really "national imprints".

Ideally, governments should set aside funds for the acquisitions of material for the compilation of national bibliographies. Only in this way can we ensure comprehensive national bibliographies.

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Harmonizing Bibliographic Control of Serials in the Digital Age

Regina Romano Reynolds,
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Introduction

"For complexity and instability, serials take the bibliographic biscuit," wrote Jim Vickery of the British Library.(1) That statement was made before the existence of electronic serials on the Web in all their forms and formats and remains ever more true in this era of proliferating digital resources and internationalization of cataloging. In this paper I will examine two forces acting upon the bibliographic control of serials today: the desire to harmonize international standards and practices, and the impact of electronic serials: serials with new and rapidly evolving publication and presentation patterns which challenge the very premises on which our standards for serials have been built.

Serials have always been inherently difficult to catalog because the cataloger is usually describing the whole from only a part, and because everything about future issues of a serial is subject to change, even the title. For electronic serials, even back issues are subject to change, since already-published material can be re-formatted at the whim of the publisher. No wonder that libraries throughout the world are turning increasingly to record sharing, copy cataloging, and contract cataloging in order to help control publications - serials included - at the least cost. However, one of the hindrances to increased record sharing - especially internationally - is the profusion of different bibliographic control rules and practices throughout the world.

Harmonization of Standards

There are three principal areas for harmonization of standards for serials: ISBD(S), national and multi-national cataloging codes, and ISSN rules and practices. In a rare alignment of bibliographic planets, three key standards: *AACR2*, ISBD(S) and the *ISDS Manual* are all currently undergoing revision. Since my cataloging background is in *AACR*, I will use it as an example when cataloging codes are discussed. However, many of the challenges facing those revising *AACR2* are the same challenges those examining other codes as well as ISBD(S) and ISSN rules need to face. Just as an alignment of the planets used to portend momentous happenings, I believe that the fact that these three standards are undergoing revision simultaneously could portend momentous bibliographic developments.

All three revision groups have an interest in harmonization. The ISBD(S) revision process began in April 1998 with a meeting of IFLA's ISBD(S) Working Group. The Working Group's charge includes, "achieves harmonization with the draft revision of the *ISSN Manual*, including ISO standard 3297 [the ISSN standard] and takes into consideration developing ISSN Network practices for electronic publications" while another item in the charge calls for taking into account "contemporaneous definition and theory of seriality". It was noted in the Working Group minutes that in Germany, "they are eager to harmonize [variant rules and standards] because it is currently necessary to catalog serials twice". *AACR2* revision for serials began following the October 1998 "Conference on the Principles and Future Development of *AACR*" when the Joint Steering Committee for *AACR* (JSC) charged Jean Hiron and CONSER to develop proposals for rule revisions regarding "seriality". The JSC also mandated

harmonization with ISBD(S) and ISSN rules. ISSN Network directors will discuss revision of the *ISDS Manual* at their meeting in September 1998. Among the topics to be discussed are "seriality" practices for the creation of ISSN records, and practices regarding electronic serials. During discussions at the 1997 directors meeting, support was expressed for harmonization of practices.

Certainly these simultaneous revision efforts represent events that seldom coincide. And certainly a rare harmonization opportunity is upon us. Harmonization would have many benefits: serials would have to be cataloged only once instead of twice as is now the case in many countries (e.g., Germany): once to create separate records for the national bibliography and once for ISSN registration. Bibliographic records for serials could be shared internationally more widely and more easily. Bibliographic databases could be merged and international union list projects such as the Italian Casa Project could be carried out more accurately and with much less work. The ISSN would become a better identifier for library use since one library catalog record would always equal one ISSN (at present serious problems are caused because one ISSN can be appropriate for multiple catalog records and one catalog record can encompass multiple ISSN). Finally, countries such as the U.S., Canada, Spain, and Norway which create only one record for both ISSN registration and their national bibliographies could stop having to choose between violating either their own cataloging rules or the prescriptions of the *ISDS Manual* in order to use one record for both purposes.

Challenges of Electronic Resources

Once upon a time, the bibliographic world was much more black and white than it is today: we had monographs and we had serials; and

serialists pretty well knew a serial when they saw one. Although a grey area in between monographs and serials always existed (e.g., loose-leaf publications), it was relatively small one. But, with the current explosion in electronic publishing, new forms (such as Web pages) have appeared and many old forms (such as journals) are behaving in new and different ways, to the point where Crystal Graham has jokingly characterized electronic serials as "serials on drugs".(2) Besides their ability to incorporate hypertext links, sound, and even video, some e-journals publish articles one at a time, ignoring the need for issues. Others which do arrange articles into issues, nonetheless might not present the journal title anywhere on the issues, nor on the articles either. The only place on an e-journal that the title (and often other publishing information) might appear is on a home page which serves as the introductory page to all of the contents on the Web site. This presents a problem for description (no current or earliest issue to describe from) but an even greater problem when the title on the home page is replaced by a new title, leaving nothing online with the old title.

Another problem presented by electronic resources is that some publications, such as abstracting and indexing services or annual directories, are issued in parts (books, volumes, issues, etc.) in print and have thus been treated as serials but when they are put online they take a database format with seamless updating and no visible parts. Some also see the a trend toward scholarly journals merging to become databases of articles published under the auspices of commercial aggregators or scholarly societies. Because they are not published in parts, they do not meet the current definition of serial, so both the A&I databases and the scholarly databases thus become - at least by current definitions - monographs, causing confusion for patrons and librarians alike. Finally, the electronic age

has brought us entirely new types of resources, such as Web sites and discussion lists, which one isn't even sure can be called publications. So now we are left contemplating the "seriality" problem: in this new environment just what is a serial?

Thus, both the desire to harmonize standards and to accommodate the challenges presented by electronic serials are confronting serialists today. In the following sections I will examine the issues confronting those who would harmonize serial standards while at the same time revising these standards (harmoniously!) to accommodate electronic resources.

Seriality

Currently, ISBD(S), AACR2, and the *ISDS Manual* all define serials in terms of successive parts, usually numbered. However, as noted above, volumes and issues are disappearing from some online serials. Should paper-based serials turn into electronic monographs? Should electronic journals which are not divided into issues be cataloged as monographs? If not, how can our issue-based cataloging rules handle them? Do we need a third category of publication, in addition to monograph and serial?

"Issues Related to Seriality" written for the Conference on the Principles and Future Development of AACR by Jean Hirons and Crystal Graham (3) takes the question, "What is a serial"? as one of its chief topics. Hirons and Graham rejected the idea of a third category as being difficult to integrate into the current bibliographic infrastructure, and perhaps as only complicating decision-making for catalogers and searching for patrons and reference librarians. Instead, Hirons and Graham introduced the concept of the "Ongoing publication" as a solution to the monograph/serial dichotomy. This concept has since been refined several times. The current

model, "Modified Model C" developed by Jean Hirons and Regina Reynolds, (4) divides publications into two categories: Finite and Ongoing. Finite publications are complete as issued or complete in a predetermined number of parts. This category includes books, multi-volume monographs (whether complete or incomplete), irregularly or infrequently revised directories and text books, as well as electronic texts. "Ongoing" is an umbrella category which encompasses both traditional serials and other kinds of publications which extend over time. It does not rely on the intention that these publications will continue indefinitely but rather on the idea that their end cannot be predicted.

Just what does the creation of the Ongoing umbrella accomplish? To begin with, it covers gaps in AACR2 by accommodating types of publications which are not covered at all, such as loose-leaves, databases, and Web sites. Also, having this overall category keeps the rules for manifestations of an Ongoing work in various media together. The Ongoing concept recognizes that potential for change applies more broadly than the narrow category of serials, and it may provide (via its subcategories) the basis for determining the number of records to cover title changes. It provides an overall common treatment for the ongoing nature of the publications it encompasses but also allows for some areas of different treatment, where appropriate, for the various types of Ongoing publications. Finally, this concept has appealed to many because it recognizes seriality without making everything a serial. Under this model it is expected that the basic treatment of traditional serials will remain fundamentally the same as it is now, even though recommendations for changes in some descriptive practices are being considered.

The Model

Let us now take a closer look at the model proposed by Hiron and Reynolds. The category "Ongoing" is subdivided into two subcategories which are defined in terms of their publication pattern, or what Hiron and Graham call their "form of issuance". The first subcategory is called Successive with Discrete Parts. These are publications which are divided into parts, such as issues or volumes, which remain discrete and which have a succession of title sources (e.g., title pages, covers, etc.) over time. This category includes serials and series. The second category is called "Integrating". These are publications in which new material is seamlessly integrated into the existing material so there are no divisions into issues or parts. Integrating publications have only one source of title at any time, but the title on this source may change over time. This category encompasses loose-leaf services, databases, and Web sites. Form of issuance was chosen as the basis for determining the two main categories of Ongoing publications because it has such a great influence on the description of serials. The model permits new categories at any level to be added as new types of publications arise.

If bibliographic standards for serials are to be harmonized internationally, some agreement will need to be reached on the scope of each standard: should it cover traditional serials, the broader realm of "Ongoing" publications, or only certain types of Ongoing publications? As already noted, AACR, ISBD(S), and ISSN groups all have this topic on their discussion agendas.

Extent of One Record

Another critical key to record sharing and compatibility is that different standards should agree on what one serial record covers. At present, because of different entry conventions

and different title change rules, what is covered on one ISSN record may be represented on multiple AACR2 records, and varying numbers of records under ISBD(S) and under other cataloging codes. ISSN rules do not use the concept of "main entry" but, in fact, in the ISSN database all serials are entered under key title, a constructed form of the title which is the same as the title proper if the title proper is unique, or which is made unique by the addition of qualifying information. Many cataloging codes, such as AACR2, specify main entry under corporate body, or even personal author, for at least some serials but not all codes specify the same kind of entry for the same kind of publication. When main entries change, new records are required. ISBD(S) is concerned with description alone but does specify "major changes" which call for a new description (0.1.3) as well as minor changes in title proper and statement of responsibility that do not require a new description (7.1.1.6 and 7.1.5.4). One of the challenges for harmonization is the need for agreement among the standards about which changes (defining major and minor changes) to which elements (title? statement of responsibility? edition statement? numbering? format?) require a new description and which do not.

One potential solution (5) is to make the key title the benchmark for determining both the extent of the publication to cover on one record and the benchmark for determining title changes. That is, when the key title changes in a major way, a new description is required. If this proposal were accepted by cataloging codes, it would mean that either the key title would have to be the main entry for all serials, or that when a main entry such as a corporate or personal heading changed, a new description would not be created unless the key title needed to be changed as well. This latter case might be so confusing as to be unacceptable or unworkable.

Adoption of the key title as the main entry for serials would require compromises and resolution of several nettlesome issues. First, codes that specify entry for some serials under personal or corporate author would have to be changed. Second, rules for the construction and use of a "uniform title", such as is used in *AACR2* (Rule 25.5B) would have to be merged with rules for the construction and use of key titles. In fact, these two constructs are very similar, and have been getting more similar according to Alex Bloss in a recent article in *Serials Review*. (6). Although Bloss says of uniform titles and key titles that "their basic functions remain different", I believe this is too strong a statement. In fact, although uniform titles are used only when needed to distinguish between publications bearing the same title, and key titles are created to identify uniquely all titles in the ISSN system, where both are present, both do serve the same function. And where a serial in *AACR2* is entered under a title proper which is already unique, the key title is probably the same (or could be depending on cataloger's judgment) as the title proper.

Nonetheless, some changes in the key title might be required, both in how it is constructed and in those situations that constitute major and minor changes requiring new records and ISSN. There would be the need to take into account not only current practices but also recommendations being proposed for *AACR2* revision, for example, the possibility of considering additions or deletions of frequency words in titles to be minor changes. The form of the issuing body - when needed as a qualifier for generic titles - is a significant issue. ISSN rules state that the body name be transcribed in the form and sequence in which it appears on the piece while *AACR2* prescribes using the established heading form. However, ISSN rules also offer the opportunity to use the body name as established by national cataloging practice to

libraries in the CONSER program. If this exception were to be extended beyond CONSER, U.S. libraries might find use of the key title as main entry more acceptable. As it is now constructed, there is concern that use of the body name as it appears on the piece does not result in a predictable access point and does not allow for orderly machine filing.

Finally, use of the key title as either main entry or title change benchmark would require timely access to the ISSN database. The debut of Web access to the ISSN Register is planned for August 1998. Also needed would be procedures for catalogers to create a provisional key title which could be used pending the assignment of a key title by an ISSN center. Despite the considerable challenges to be overcome in making the key title the determinant of the extent of records and title changes, the benefits to be realized by harmonizing just this one practice would be especially rewarding because it would result in records with the same coverage under all three standards. This is probably the single most significant area to harmonize in order to achieve record sharing, more effective union lists, and more extensive ISSN use by libraries.

Handling Title Changes

Once all parties have agreed on "What is a serial"? and "What constitutes a title change"? there remains what I believe to be an even more monumental challenge: how to handle title changes. Traditional choices for handling title changes include earliest entry (one description for all title changes, the earliest title remains the title proper, notes are made about later titles); latest entry (one description for all title changes, the title proper always reflects the current title, notes are made about earlier titles); and successive entry (a new description is made for each title change). Although successive entry is prescribed by *AACR2* and other codes, ISBD(S), and ISSN

rules, handling title changes for Ongoing publications such as loose-leaf services, databases, and electronic journals which are not successively issued forces us to consider how to handle title changes in cases where the old title may completely disappear. Even though it might be desirable in national bibliographies to retain records for the old titles, many librarians do not feel it is appropriate to have records in their catalogs for titles which no longer exist. Some of these librarians feel latest entry is the way to handle these situations, which is how many in the U.S. already catalog looseleaves, following Adele Hallam's *Cataloging Rules for Bibliographic Description of Looseleaf Publications* (Library of Congress, 1989).

Latest vs Successive

Since latest and successive are the entry conventions most under consideration for use with electronic resources, I will discuss the pros and cons of each. Successive entry records are shorter and simpler than latest entry records, which can become very long and complex for publications of long duration. The one title per record approach used in successive entry facilitates linking and adding holdings to records. Successive entry causes fewer problems in cooperative databases and union catalogs because libraries can add their holdings to only those titles represented in their catalogs. However, successive entry results in multiple records for what many perceive to be the same publication and also can result in what some feel is a higher workload: the need to create a new record for each title change.

In addition to complicating the creation of cooperative databases and union lists, there are other drawbacks to latest entry, especially for the ISSN Network. If cataloging codes and ISBD(S) were to accept latest entry for Integrating publications (e.g., electronic

journals without issues), the ISSN Network would be faced with two options if it decided to assign ISSN such publications; both options would cause problems. If the decision were to continue assigning a new ISSN when the title changed, then in countries which used one record for both ISSN and the national bibliography (an increasing trend which harmonization would accelerate) ISSN centers would have to create a separate record to assign ISSN to Integrating publications since it is impossible to create a coherent set of successive records from one latest entry record.

Alternatively, the ISSN Network might decide to not assign a new ISSN for title changes to Integrating entities, thus creating a new set of problems. To begin with, could publishers understand the ISSN Network's use of different title change rules for different serials? Would retaining the same ISSN through title changes be compatible with other identifiers which incorporate the ISSN, such as the SICI (Serial Item and Contribution Identifier) and potentially the DOI (Digital Object Identifier)? Most challenging of all would be the problem an ISSN center would face in trying to determine, each time they received an ISSN request for an Integrating publication, whether it had already assigned an ISSN to that publication under an earlier title - a title which could possibly be two or even three titles back. With changes in publishing houses and movement of titles from one publisher to another, publishers often do not know the title history of their publications. Although ISSN centers do not always know now when a serial has had an earlier title, the most serious result is a missing link. Under latest entry, the consequence of not knowing an earlier title would be a duplicate ISSN assignment. Many such duplicate assignments could seriously threaten the integrity of the ISSN system.

How Many Conventions?

An alternative to both latest and successive entry proposed during AACR2 revision discussions is a new concept called "incorporating entry" by Sara Shatford Layne of UCLA.(7) Under this convention - the details of which are still in development - a new record would be created each time the title of, for example, an electronic journal not published in issues changed. Although new records for title changes are also created under successive entry, the main difference for incorporating entry is that, as in latest entry cataloging, the start date of the new record is the start date of the earliest title ever held by the publication, with the earlier title(s) listed as notes and access points. The use of the earliest date reflects the fact that each new record represents the entire run of the serial. Thus, national bibliographies could contain all the records for the different titles ever held by the publication, while local libraries could choose to retain only the record for the most recent title, a record which would have access points for the earlier title or titles. This approach is still very much under discussion and concerns have been expressed about its complexity, about the need to maintain more records than under latest entry, and about the possibility that libraries might not contribute records for changed titles to national or international databases, but simply change the title on their existing record, creating a latest entry record.

A particular concern when considering these options is the question of just how many different conventions for handling title changes can be operating simultaneously in one system or database? Can we handle both latest and successive entry at the same time? My opinion is that mixing latest and successive entry in one database would be extremely difficult and confusing. In database terms, some records would represent one object, other records would represent more than one object. Start

dates would have one meaning on latest entry records and another meaning on successive entry records. If a title were published in both print and online database form, the records might each be created according to different conventions and would look very different. Linking between the different records could be a nightmare. If we were to add Incorporating entry to this mix, and use it for electronic journals which did not have separate issues, would we then go beyond any cataloger's ability to use the rules, and any patron's or reference librarian's ability to interpret our catalogs? Handling title changes for Ongoing publications therefore becomes another challenging but crucial area for resolution and harmonization.

Basis of the Description

And finally we come to issues relating simply to description. The first of these issues concerns "What is the basis of the description"? To begin with, should a serial's description be taken primarily (as is the case under AACR2 and ISBD(S)) from one issue, or should it be taken from the serial as a whole? Should there be a "chief source" from which a serial's description is taken? If the description is taken from one issue, should that issue be the earliest or the most recent? ISBD(S) and AACR2 prescribe the earliest issue as the basis for describing current serials. However, ISBD(S) explicitly gives instructions for the prescribed sources of information for ceased serials (0.5.2.2) which specify for various areas, use of the first issue, the first and last issues, or the whole publication. This is an explicit and helpful instruction from which AACR2 could benefit. ISSN rules specify constructing the key title and description from the issue in hand at the time of ISSN registration, and at least attempt to keep the place of publication and publisher current, a desire frequently expressed by U.S. reference and acquisitions librarians.

Questions concerning the basis of the description become even more complex in the electronic world. Title pages and covers have been replaced by home pages, which do not follow the bibliographic tradition at all. Bibliographic elements are scattered throughout an online serial. For this and other reasons, in the Hiron/Graham paper the following recommendation is made. "For ongoing publications, replace the concept of 'chief source' with that of 'source of title'. Allow greater flexibility in the selection of the title within the parameters of the prescribed sources. Define new terminology for sources within online publications". The ISBD(S) Review Group charge states, "Reconsiders the propriety of basing the bibliographic description for serials on the first issue to be published and the concept of 'chief source' for serials". It is to be hoped that as these issues are discussed within the AACR, ISBD(S), and ISSN revision processes, harmonization of the key issues noted above will be possible.

Identification vs. Transcription

ISBD(S) and many cataloging codes such as AACR2 call for transcription in various areas of the record - that is, recording the exact words that appear on the publication being cataloged. The practice of transcription, no doubt, is helpful for the differentiation of editions in books, and especially for the cataloging of rare materials. For serials, however, transcription from one issue out of a run of possibly hundreds is less useful. ISSN rules focus more on including in the ISSN record bibliographic elements which will identify a serial and help to distinguish it from other serials. An example of divergent practices for identifying vs. transcribing can be seen in the rules dealing with misprints. AACR2 says (in rule 1.0F1) that for areas requiring transcription, inaccuracies are to be transcribed as they appear. ISSN rules for the

key title (which is admittedly a construct), say to correct inaccuracies and not even note them. ISBD(S) takes a somewhat middle ground in stating (0.10), "Inaccuracies or misspelled words are transcribed as they appear in the issue described as well as those occurring in the publication as a regular feature. Misprints occurring accidentally in an issue are ignored or may be given in area 7 (notes)".

Another example of the ISSN practice of identifying rather than transcribing occurs in how the publisher is recorded. For example, if on an issue the words, "Published for the Astrophysical Society by the California Institute of Technology" appeared, those words would be transcribed as the publisher statement in AACR2. However, for the ISSN record, all that should appear as the publisher is California Institute of Technology. Isolating the name of the publisher in the publisher field of the record allows for clearer identification, for searching by publisher name, and for creating listings by publisher.

For electronic publications, the concept of transcription becomes even more difficult. At least for print serials, the issues that have been published remain the same for all time so that exact transcription can sometimes be helpful in resolving problems. However, electronic publications can change retrospectively as well as prospectively. Issues that were published earlier may all be reformatted to show a current title and publisher, or perhaps there are no issues and the home page changes sporadically both to display a new design as well as new information. To compound the problem of transcription for electronic publications, at times what the reader sees is dependent on his hardware and software such as Web browsers. For example, browsers that are "frames capable" will show one design, while an alternate design is provided for older browsers that are not capable of displaying

frames. Exact transcription may not always be possible, and even when it is, it does not always serve to provide the best information.

In their paper Hiron and Graham recommend: "For ongoing publications, create rules that focus on identification rather than transcription". Identification is a concept that already underlies ISSN rules and practices. The ISBD(S) Review Group charge states, "Considers areas of description in which identification of data may be more desirable than transcription". Thus the stage seems set to pursue harmonization in this area.

Changes in the Description

It is more than just an oxymoron to say that one of the few constants about serials is change. It is the nature of serials to change, but cataloging codes and ISBD(S) generally do not discuss change except in regard to serials. One of the benefits of the Ongoing concept is that it provides a framework for creating rules that deal with change which can be applied to a wider range of publications than traditional serials.

However, it will be important for harmonization efforts that ISBD(S), the various cataloging codes, and ISSN rules handle changes in description as similarly as possible. This may be a challenge for ISSN rules in particular since the ISSN record, being language neutral, has no note fields. Changes in imprint and frequency are handled by replacing earlier information with more current information, minor title changes are handled in variant title fields. Those proposing AACR2 revisions are considering putting both current and former publishers in the imprint or in a related area rather than just in a note.

Multiple Manifestations/Versions of a Work

The IFLA Study Group on the Functional Requirements for Bibliographic Records (FRBR) (8) proposed a four-tiered model consisting of "works" (the intellectual construct); "expressions" in various forms; physical "manifestations", and actual "items" held within a library. This model provides the terminology and means to analyze the growing problem of how to treat serials in multiple manifestations or versions. Although the FRBR Model does not use the term "version", I use it here to refer works in different physical formats which also differ in content, presentation, or functionality. Rules for handling serials issued in multiple physical manifestations and versions are largely lacking in AACR2 and ISBD(S). Current ISSN practice is to assign a separate ISSN to each different physical form. Thus, harmonization in this area will require development of cataloging rules where they are lacking and reconciliation of those rules with current or future ISSN practice. Martha Yee of UCLA is working on this area with an ALA CC:DA 0.24 Task Force. (AACR2 Rule 0.24 states that a serial should be described from the physical carrier).

The problems presented by multiple manifestations and versions of serials are so numerous that they could well form the topic of a separate paper. Simply determining if the content of one physical form of a serial is the same as the content of another is a challenge. Even if the content is the same in the two issues compared, it may diverge in future issues. Another question is whether to consider different formats, such as HTML, ascii or PDF to be different manifestations and, most important of all, should all different manifestations require different descriptions?

Some favor a tiered record solution such as that proposed in the *Multiple Versions Forum Report*, (9) with a basic description and attached records which differ at the manifestation level. Others, such as many CONSER libraries, seem happy with CONSER's "one record option" which allows the URL for an online serial to be added to the record for the print version of that serial. In this case, the print record still represents the print publication, it just also serves as an access point for the online version. However, different versions often have distinct identifying information and really require separate descriptions. Nonetheless, many reference librarians feel patrons are only confused by separate records and many administrators feel they can't afford the cost of creating separate records.

My own opinion is that separate records are the best solution. To provide patrons with understandable displays and to reduce the costs of creating separate catalog records, I believe that we can look to systems designers for solutions. If a "front end" to systems could be designed to create the multiple records for different formats from one input session and to pull together the multiple records for the different formats into a single combined public display, then we might have the best of both worlds. The solution to this "multiple versions" problem will not be an easy one. However, if any solution is possible, that solution will be much more valuable if the major serials standards agree.

Challenges for the ISSN Network

Although the functions of the ISSN record are different than those of a bibliographic record, ISSN records can form the foundation for the national bibliographic record, and increasingly they are being made to do so. Therefore, harmonization of ISSN practices with those of national bibliographic agencies is

crucial to international cataloging harmonization. One of the most fundamental questions the ISSN Network has to decide soon is the future scope of the ISSN. Following is a summary of the questions on the topic of seriality I have proposed for the directors of ISSN centers to discuss at their September 1998 meeting.

To which types of electronic publications should ISSN be assigned? (Serials as currently defined? Electronic journals? Databases? Web sites?). Can the ISSN Network afford to not include some types of electronic publications and still remain viable in the face of DOI, URN, etc.? What will be the consequences if AACR2 and ISBD(S) change and ISSN rules do not? Should we handle all electronic journals alike whether they are published in issues or not? If ISSN are assigned to any Integrating Entities (databases, some electronic journals, Web sites) how will we handle title changes? (Successive entry, a mix of latest and successive, latest, successive and incorporating, some other option). As noted, additional discussions will address revision of the *ISDS Manual*, electronic serials, and the assignment of separate ISSN to multiple manifestations and versions of serials.

Conclusion

Harmonization of standards for the bibliographic control of serials presents a formidable challenge. There are numerous issues to be resolved as well as harmonized. As we have seen, these include: seriality, extent of the record, handling title changes, descriptive issues, multiple manifestations and versions, and ISSN issues. Complete harmonization may never be possible. However, even harmonization in one or two key areas, such as seriality and extent of the record, would go a long way towards

facilitating record sharing and merging of databases.

Electronic serials, both by their proliferation and by their unpredictable evolution, are presenting serialists with unusual challenges. However, the fact that we face these challenges in a time of increasing international cooperation means that no one country or standards group needs to solve these problems on its own. Instead, we can bring the collective intelligence and creativity of the international cataloging community to bear on these problems. As a result, we will have the opportunity to solve the problems in the best possible way, and to obtain a harmonized result that will help relieve the cataloging burden we all face.

Notes

1. Jim Vickery, "CONSER: Serials Cataloguing American Style". *Catalogue & Index* 101/102 (Autumn/Winter 1991): 4.
2. Crystal Graham, ALCTS Serials Section Program, ALA Annual Conference, June 1997.
3. Jean Hiron and Crystal Graham, "Issues Related to Seriality", Conference on the Principles and Future Development of AACR, October 1997. (Proceedings not yet published)
4. Jean Hiron and Regina Reynolds, "Proposal to Adopt a Modified Model C Approach", April 1998, CONSER Web site:
<http://lcweb.loc.gov/acq/conser/ModelC.html>
5. To read about other proposed solutions, see Gunter Franzmeier, "Multiplication of Serial Titles Forever"? *Serials Librarian* 12: no. 1/2 (1987): 63-72.
6. Alex Bloss, "Uniform Titles for Serials, Key Titles, and *The Guidelines for Authority and Reference Entries*", *Serials Librarian* 23: no. 4 (1997).
7. Sara Shatford Layne, "'Incorporating Entry': A New Approach to Cataloging Electronic Journals". May 1998, CONSER Web site:

<http://lcweb.loc.gov/acq/conser/incorp.html>

8. *Functional Requirements for Bibliographic Records. Final Report*. Deutsche Bibliothek, Frankfurt am Main, Germany: IFLA Universal Bibliographic Control and International MARC Programme, July 1997
9. Multiple Versions Forum, Airlie, Va. 1989, *Multiple Versions Forum Report*. Washington, D.C.: Network Development and MARC Standards Office, Library of Congress, 1990.