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MARC: National and International Co-operation

Introduction
The library structure of any nation is in a constant state of evolution. It must match the very rapid changes which result from educational development, cultural shifts and technological advances. In this evolutionary process new library institutions are created to meet new needs and existing services are expanded here and there and changed to patch up the more obvious gaps as they appear. This is particularly true of the provision of services which librarians themselves use in order to service their communities. These services as they exist today, have been developed in national isolation and, not infrequently as centres of unco-ordinated activity within countries. They have, in recent years, shown considerable signs of strain and there has been increasing use of data processing techniques to overcome the problems caused by the steadily rising flood of publications. The latest stage in these development is the creation of national bibliographic data banks, in this paper some of the more practical aspects of the use and efficiency of these data bank systems are considered. The conclusion is that it is necessary to establish a new type of ‘bibliographic framework’ within each country to handle its cataloguing services, its interlending services and its national library services. All of these operations are now totally international in nature and they must be supported at a higher level with a closely co-ordinated international bibliographic system. This international system should develop out of MARC.

The International Bibliographic System
The need for an international bibliographic system is summed up in a phrase taken from ‘Libraries at Large’ [1]. Presumably with one eye on the massive Library of Congress Shared Cataloguing operation the editors say ‘No one nation is going to do all the world’s bibliographic work’. It is equally obvious that no one nation is going to hold all the world’s books. Obvious though these statements may be it is difficult to find much evidence that they have been understood and translated into sensible acquisitions, cataloguing and interlending policies. Libraries are still proceeding with largely uncoordinated acquisitions programmes unaware perhaps that the national bibliographic resources represent a steadily decreasing percentage of the material published each year. Libraries are not however unaware of the cost of cataloguing the material they do purchase. No country outside the United States attempts the impossible task of providing cataloguing data for overseas material.
and the international bibliographic system as represented by published national bibliographies simply fails to meet their requirements. There are no observed standards for national bibliographic services. Most of them fail the library on three grounds. First — the printed record may be the produce of alien cataloguing codes. Second — the record provides no tracings or standard classification numbers. Third — the record is probably not available anyhow when the book is in hand. To be effective an international bibliographic system must have as a basis an international code of cataloguing rules, an international form of bibliographic description, an international subject statement and an efficient system for creating and publishing records in printed or some other visual form.

MARC International

It is unfortunate perhaps that it is only too easy for nations to adopt machine systems to solve the last problem only — that is to establish an efficient system for creating and disseminating records. Most of the larger and more important national bibliographies of the world have transferred, or are planning to transfer to a computer based operation. In terms of dissemination of information the computer based systems have been virtually 100% successful. Perhaps the most extreme example was the production of the British National Bibliography for 1970 in ultramicrofiche form by the end of January 1971. (2) This is a unique example of what can be achieved when an advanced technology is used at every stage of handling but printed bibliographies such as the ‘Deutsche Bibliographie’ now appear in cumulated form with remarkable speed. These computer centred national bibliographic agencies, whether or not they form part of the national library, are the organisations that have the power to create an international MARC network. They have essential links with the publishing trade and they have the essential data processing experience. An international bibliographic system must begin with the coordination of these agencies into a network. This network should be linked into a formal organisation and each national centre should undertake to store, and to make available to any library within its own country, any bibliographic record created in the network. It should be given the means to do so.

The establishment of national and then international data banks at the centre of each country’s bibliographic system is the first essential step in the controlled development of a national bibliographic system. However for efficient development to take place the international bibliographic data bank must be much more than an agglomeration of records from Rome, Paris, Washington, London etc. The records must conform to agreed international standards and it is high time that the countries interested in forming the nucleus of an international bibliographic system got together and decided on some basic standards. This means changes for everybody — particularly the national libraries. But change is inevitable.
One by one the great national libraries of the world are going to decide to split their catalogues in order to be able to benefit from automation. They will probably resist taking this step for some time but finally the money to maintain the old system will not be there any more. At that point the arguments for or against become irrelevant.

International Exchange Standards

The question of establishing international standards for use in the exchange of material between national centres is not the same as trying to agree a universal MARC system down to the last subfield code. This, I think, is neither possible nor desirable. National systems will have their own national characteristics and one must be careful not to overstep the mark and substitute a dull uniformity for the present anarchy. Indeed a reasonable diversity should surely be encouraged. The English and French versions of the MARC system not only reflect differences between our approach to the problems of presenting and organising entries on the printed page but they also demonstrate that, good though the original Library of Congress system was, it could and should be improved. The next national MARC system will probably benefit from our steadily increasing knowledge of record analysis and manipulation. It would, I think, be foolish to try and freeze the MARC format. It is enough to freeze the machine format which is the medium of exchange. But we do need, and urgently, a common and detailed MARC implementation standard. This should be designed for use between the national agencies. This will leave the agencies free to negotiate between themselves without having to worry about the effect of changes on the libraries back home. Let us be realistic about this. The Library of Congress has pioneered an international system of exchange and has developed a good national implementation. It cannot now submit that national implementation as an international standard because it would be significantly changed in the process. The Library of Congress would have a riot on its hands if it produced MARC III while libraries were struggling to digest MARC II. Their negotiators would be forced to come to the conference table without any freedom to negotiate. This is not a particularly unusual situation but it can be avoided by deciding to create a standard for use between the international agencies only. This standard will inevitably be more detailed in its analysis than national versions. Each country will want at least its own level of analysis. There is, in any case, nothing to lose by this approach. If the national agencies cannot agree on a closed network standard there is absolutely no point in trying for a standard MARC II implementation.

A standard national agency network format will materially assist the build up of international data banks at each national centre. It is not difficult at BNB to translate Library of Congress records from the United States national implementation to the United Kingdom implementation but it is rather difficult to keep the two systems in balance. To keep half a dozen systems under control would not be at
all easy. Each system will develop and change but if the network chooses a neutral exchange format the problems caused by national changes will largely disappear. The national systems will be free to develop at whatever pace they choose. They will do so anyhow. We should plan a system which recognises this fact. An international network standard will insulate the national agencies from these changes as they occur. The international network will be able to control its own rate of changes.

The Use of the International Data Bank

The concept of the international data bank held and used by a national bibliographic agency is not just part of our future planning. It exists today. At the British National Bibliography American tapes are fed into a combined United Kingdom/United States data base. Some of the libraries in the United Kingdom national network receive both British and converted American data. The BNB's own publication program includes the microbibliography service 'Books in English'. These services are provided without any editorial work whatever on the records created by the Library of Congress. This paper began with a quotation taken from the American 'National Advisory Commission on Libraries report'. This was 'No one nation is going to do all the world's bibliographic work'. This can be extended by a British comment based on considerable experience 'No nation should try to re-catalogue somebody else's MARC service'.

This exercise in international MARC bibliography at BNB is a major development but I would prefer to regard it a little more than illustrating the potential of the system. Let us imagine for a moment that the data bank is really international. That it contains English, French, German and Italian records at least. This is not too imaginative. We can practically say today when these records will be available. This will be so soon — within 3-4 years — that immediate steps should be taken to reorganise our national bibliographic systems so that all bibliographic activities — acquisitions, cataloguing and interlending interact with the central international file held by each country. To achieve this we need to begin by creating the national records for each country in the right place and at the right time.

Acquisitions and Cataloguing

The national records for the international data bank should be added to the file as a result of the legal deposit acquisitions programme of the national library (or libraries). National records should therefore be created as part of the cataloguing activity required by the national library. In establishing such a system it must be remembered that the cataloguing requirements of the national library, important though they are, are relatively insignificant compared with the total 'cataloguing information' requirements within the library system of the country. The privilege
of copyright copies must be associated, as it is already in the United States, with the statutory duty of providing cataloguing information without delay.

The foreign acquisitions policy of the national library will in the long run have to be coordinated with other libraries and with the interlending system. The international data bank will ultimately provide the means to do this but before these systems are established the major use made of the data bank will be the provision of cataloguing information. A country should organise its data bank system so that the national library has direct access to the full international data bank. The national library must maintain a massive acquisitions and cataloguing operation and must have every facility to acquire and process material as quickly as possible. To be fully effective the system should be on-line but the best way of establishing an on-line system is to get some batch processing experience. The acquisitions programme of the national library should enhance the contents of the international data bank since all catalogue data prepared for the national library should pass into the data bank for use by other libraries. This is of course based on the assumption that national libraries accept a new dynamic role. They must be the prime agent for supplying cataloguing information through MARC and by printed services to the country as a whole. They must therefore play a leading part in determining and adopting international standards of cataloguing.

Interlending

The final point that I want to cover briefly in this paper is the functional relationship between bibliographic data banks and national interlending systems.

Existing interlending systems have grown up somewhat haphazardly and it is our experience in Great Britain that the rapid increase in book publishing, in book stocks and in interlending demand is placing a great strain on the services. The traditional union catalogue which is the hallmark of the interlending operation is too cumbersome, too expensive and too inefficient to last much longer. It must be replaced by something better. The international data bank is the basic information tool around which a new system can be organised. The significance of the international data bank is that it represents, as far as is practical, the total store of current books which may be wanted in an interlending operation. It is extremely simple to add further information regarding the national holdings of any particular title to this file.

If this information is added the book resources of the country and, more significantly perhaps, its non-resources, are known.

In Great Britain BNB has already established, with great success, a simple feedback system. At present it is limited to British books. Some half million or so locations are received each year in the form of Standard Book Numbers from libraries in the London & South Eastern Region. This location information is set up on a separate
file and using computer output microfilm techniques an up-to-date microfilm of locations is prepared every two months. This information is in fact distributed to a small group of libraries and is already beginning to have an effect on stock levels since a librarian can usually see how many copies of the book are already in the region when he is considering purchase. The next logical step is to prepare a list of items not purchased — a simple data processing exercise. This will provide information on what a central reserve system should obtain. When this step is taken the role of MARC in the British national bibliographic system will be significantly extended.

Conclusion
The effective development of a MARC based national system depends on three factors.
1. The creation of an international data bank, with bibliographic standards.
2. The coordination of copyright cataloguing operations, national bibliographic service operations, and interlending operations.
3. The widespread utilisation of data bank information by local library systems.

Only the first two features have been discussed in this paper but the third factor is of major importance. MARC systems will not succeed until the central organisation can really provide a flexible range of machine readable services. The present MARC services simply will not do. As far as bibliographic data is concerned libraries must take all or nothing. As far as assistance in the form of software packages are concerned there is no alternative. Nothing is available.

The next stage in the development of British MARC will be to provide a flexible service-orientated system. We will start by attempting to write a general file handling system suitable for library use. Basically this means designing a file structure which has much of the flexibility of MARC but is suitable for efficient high level language processing. We will attempt to write conversion programs that extract data from full MARC records and pack it into this local format. We will also experiment with local library processing in the central system. If we expect a local library to extract data from a MARC file and create local catalogues it should be possible to do the job for the local library. It should in fact be somewhat easier since you don’t have to fight your way through different computer systems.

These are our next objectives. They mark a critical turning point in our approach to MARC. In the last two years we have developed an enormously versatile central operation. In the next two years we hope to develop an equally versatile user package. We are determined to make libraries and MARC compatible.

Finally I would suggest to the Conference that the potential of the international MARC network is so important to the bibliographic systems of each country that we should seriously consider ways and means of establishing a permanent MARC
Secretariat. The first task of the Secretariat would be to prepare, in all necessary languages, the basic documentation of the machine system. Important questions such as the handling of subrecords still remain unresolved. We need to define an extended character set for the library community. We need to work on the preparation of network standards. I do not see how we can hope to control the development of MARC unless the machinery for control is created as soon as possible.
Discussion

The possibility of producing the British National Bibliography on microfilm was explained by Mr. Coward. A sample containing 32,000 entries on one single microfiche was circulated among the participants. He also explained that the BNB is producing holding lists which show the International Standard Book Number (ISBN) and the code of the libraries who have these items. He stressed the importance of this list for interlibrary loan, because they already add about 5 million holding notices each year already. Mr. Kohl questioned whether the BNB or the Library of Congress would be prepared to accept changes in the MARC format due to the difference between the cataloguing rules of the individual national libraries and countries. Mr. Rather answered that concerning the filing of entries both the BNB and the Library of Congress follow the Anglo-American Cataloguing Code and to the extent that the cataloguing rules are such as the content designators can be taken as a good base. However, he presumes that the name of an individual, whoever he is and regardless of who he is, the cataloguing rules remains the same. Mr. Rather felt that beside the problems of personal names there are also other problems, especially in corporate names and furthermore that the tagging scheme of the Library of Congress is insufficient in the title section. Mr. Coward confirmed this by saying, “At the BNB quite frankly we found the tagging scheme and the content designators are inadequate to produce what they are already doing without any consideration of whether one wishes to enhance the production of printed BNB.” He added that there are already two quite distinct levels of analysis and he felt that in certain areas it is absolutely essential to enrich the tagging and the content designator which are present in the American MARC implementation. BNB found it absolutely necessary in order to produce printed catalogues, for instance to extend the title tagging. In the same way it is essential to develop a whole strain of subfields. This is why Mr. Coward was not optimistic about the possibility of a universal tagging system. Meanwhile, he was optimistic and he believed he had reason to be so about the universal acceptance of the MARC format as long as it is understood that this simply means the machine structure. He stressed the importance of the exchange of tapes on the international level which should be made by some national agencies and not by the individual library. Mr. Lingenberg also mentioned that one can easily convert from a complicated scheme to an easier scheme, so that if one uses a more sophisticated tagging scheme, like the American MARC, one can easily go from it to a simpler tagging scheme. Difficulties may arise if one receives data in a less detailed scheme, which cannot be transferred into a very detailed and complex system. Mr. Rather mentioned that it is not advisable to produce “individual” tapes and it does not appear to him to be realistic to think that within this conference we can find the same communication format for the different approaches in cataloguing. If things in the present BNB and Library of Congress format will be coded in
subfields and the same things in the German format will be tagged separately, there is simply no way: one cannot do both at once. Mr. Pflug thought that it would be better to discuss the standard bibliographic description here. We cannot expect to receive tapes from other countries besides the USA and UK with special filing aspects which would suit the German filing rules. He believes that the old elements of description are involved in the standard bibliographic description and one will find ways for its incorporation within the German cataloguing rules. Actually, all the filing problems must be treated by each individual library. The question was raised about the possibility of establishing an international MARC secretariat and who would arrange it. Mr. Tell proposed that this could be done under the direction of the Unisist-Project together with help from Unesco. Mr. Coward added that since the British Library will presumably become the depository for an international data bank, it will for its own benefit make heavy use of this data for acquisition and cataloguing operations. It therefore seems essential for the British Library to support the international secretariat. He also proposed that two members from each country set up a nucleus for this organization. Mr. Lingenberg appreciates the financial aid from Unesco for the establishment of such a secretariat. Mr. Coward stressed that the problems associated with this secretariat would be basically those concerned with the problems of standardization, which are presently inadequately handled by other organizations. The secretariat can work out the documents which would then be circulated for further consideration to achieve an international standard. Mr. Pflug thought that such an international system is in fact somewhat dangerous. University libraries are now trying to introduce and adopt an integrated system, not only for cataloguing, but also for acquisition procedures. He also inquired about the possibilities concerning the reduction in the backlog and delay in the cataloguing department of the national centers producing tapes. The time period between the publishing date of a book and its recording in the BNB and Library of Congress tapes is actually too long. Mr. Wells pointed out that investigations are being done by the BNB on the possibility of a system among the Commonwealth countries to receive a proof copy of each book before its publication. In fact, most publishers are keen to send a copy of "legal deposit" and the BNB deals with these copies as quickly as possible. Worth mentioning is the subject classification done by the BNB which immediately covers several systems such as DC, LC, etc. It may take one day for one book, however they have designed a machine system which will enable them to shorten the processing time because when they receive a book on a subject which was previously treated, then they can receive the needed data without any further intellectual work. This saves time and is a 20% cut in the process. Mr. Pflug questioned whether the BNB is using the book-seller tapes and if so what are the contents of these tapes. He believes that these tapes only cover a group of books which are selected by the publishers. Mr. Lingenberg further questioned whether the book-seller tapes are also being
used for the creation of a complete record for the BNB MARC records. Mr. Coward answered that the BNB is only using the tapes for checking purposes to be sure that they are doing a complete coverage of the publication, besides he added, the BNB is only interested in these tapes for the short titles covered in them. He also added that the form of input — the input to the commercial service (Books in Print) — does not match with the BNB records. Mr. Pflug wanted to know more about the description and content of these tapes. Mr. Coward replied that they included the ISBN, main author, other authors, editor, short title, full title, collation, publisher, etc. Mr. Wells added that the information covered in these tapes are given by the publisher to the agency and there are no fixed dates for the coverage of any title in these tapes, only the reception date by the agency. Mr. Rather also shortly explained the method used in the Library of Congress. One cannot catalogue a book which is not yet received and to try and shorten the time in producing entries for the US imprints, the Library of Congress is trying what they call cataloguing commutable. This means the publisher will send books to the Library of Congress in the form of a galley which will be used as a basis for bibliographic entry. The galley is usually sent to the Library of Congress and to the author at the same time. The information supplied by the Library of Congress will be sent to the publisher to be included in the book. For the Library of Congress it will also be available in machine readable tapes and will be sent to the MARC distribution service. When the book is actually in its final form, additional fields will be added or changed if necessary. It depends on the publisher for he may change the title at the last minute. Mr. Nowak wanted to know how many copies of these tapes are distributed and how much they cost. Mr. Rather replied he did not know and Mr. Coward added that there may be 3 copies. Mr. Nowak asked then about the cost of cataloguing a galley and the final cataloguing of a book. Mr. Rather said that they found it expensive and they are now in an experimental phase for a period of 3 years. The costs are estimated at about $600,000 which they may receive from different sources.