DOCUMENT RESUME

ED 063 941   LI 003 691

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TITLE	[Meeting of Experts on Shared Cataloguing in Research Libraries, Strasbourg, 6-8 June 1972; Three Papers].
INSTITUTION	Council of Europe, Strasbourg (France). Committee for Higher Education and Research.
REPORT NO	CCC-ESR-72-26-31-35
PUB DATE	24 Apr 72
NOTE	48p.; (12 References)
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Cataloging; International Programs; Librarians; *Library Cooperation; Library Programs; *Library Standards; *Research Libraries
IDENTIFIERS	*Machine Readable Cataloging; MARC

ABSTRACT

Prior to the meeting of the Committee for Higher Education and Research of the Council of Europe, library experts met to discuss shared cataloging in research libraries. Working papers by three of the experts are presented in this volume. The paper by Anneliese Budach on "The Duetsche Bibliothek at Frankfurt am Main and Its Contributions to Shared Cataloging" discusses that library's efforts to meet international cataloguing standards since 1966. J. P. Ducarme presents general comments on shared cataloging in research libraries emphasizing standardized bibliographical control. He discusses the past and present efforts toward standardization, some of the problems involved, and concludes that standard shared cataloging rules are a necessity. In "The Uses to Be Made of MARC Input", P. Brown looks at the special characteristics of library data processing by computer. Reasons for the slow development in the use of MARC, as well as the use that has taken place, and indications for the future are discussed. (SJ)

CCC/ESR (72) 26, 31, 35

MEETING OF EXPERTS ON SHARED CATALOGUING IN RESEARCH
LIBRARIES, STRASBOURG, 6-8 JUNE 1972; THREE PAPERS

Council of Europe, Strasbourg (France).
Committee for Higher Education and Research

Prepared by Anneliese Budach; And Others

Strasbourg, 24 April 1972

COUNCIL OF EUROPE
CONSEIL DE L'EUROPE

Strasbourg, 24 April 1972

CCC/ESR (72) 26
Or. Eng.

COMMITTEE FOR HIGHER EDUCATION AND RESEARCH

Meeting of experts on Shared Cataloguing
Strasbourg, 6-8 June 1972

The Deutsche Bibliothek at Frankfurt am Main
and its contributions to Shared Cataloguing

Working paper prepared by
Anneliese Budach
Library Director

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2

The Deutsche Bibliothek, (DB) as the national bibliographic centre of the Federal Republic of Germany has tried for many **years to adapt the titles** - listed in the "Deutsche Bibliographie" - to international standards. Since 1966 we are using the corporate author for our title entries - a system unknown till then within the German cataloguing rules - and filing the title entries word by word and no longer by the grammatical arrangement of the "Prussian Instructions". Furthermore the library started in 1966 - as it is known - electronic-data processing. One German library - the University library (Universitatsbibliothek) of Bochum - got these tapes for testing their utility for access and cataloguing (1). Since 1972 the Deutsche Bibliothek is using a much more analytical format than that of the year 1966, which is - as far as the cataloguing rules allow - compatible with MARC-II. These new tapes have been given since 1972 to the University library of Bochum and to the office for library techniques (Arbeitsstelle für Bibliothekstechnik) at the Staatsbibliothek der Stiftung Preussischer kulturbesitz to be tested. The results of these tests are not yet known.

There are up to now seven more libraries, which wish to receive the DB-tapes (University library of Bielefeld, State and University library of Göttingen, University library of Regensburg, University library of Constan, University library of Augsburg, National library of Vienna, Royal library of Copenhagen). Yet it is planned to give to these libraries not only the tapes in the DB-format, but also in the MARC-II format and with a full title entry. We hope that the programmes, which are written for us - as all our electronic-data processing programmes - by the Zentralstelle für Maschinelle Dokumentation in Frankfurt/Main, will be ready by the autumn of this year.

Apart from the changes and international assimilation of our tape format the Deutsche Bibliothek has tried since 1972 to follow international developments in cataloguing for its title entries. Since January 1972 the DB has adopted the recommendations of the International Standard Bibliographic Description (ISBD). Certain changes in punctuation which now (for filing reasons) still differs from the ISBD are going to be made at the beginning of the second half of 1972. We want to measure up fully to international standards.

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(1) See: Pflug, Günther: Erfahrungen bei der Ausnutzung von Fremdleistungen für die Erwerbung und Katalogisierung. In: Mitteilungsblatt/Verband der Bibliotheken des Landes Nordrhein-Westfalen. Jg. 19. 1969, Nr. 4, S. 269 ff.

5

To help also those libraries which are working without a computer, the Deutsche Bibliothek started in 1969, and continued up to the end of 1971 - at the suggestion and with the financial support of the German Research Association - first experiments on Shared Cataloguing without tape format. Copies of title entries of the most important new German books (about 50%) were sent four weeks before being listed in the weekly issue of the "Deutsche Bibliographie" to 12 German libraries (university libraries, public libraries and 1 State library). Six of these libraries again received the whole set of a weekly list two weeks before the announcement in the "Wochentliches Verzeichnis"(weekly list).

Meanwhile 9 of these libraries reported on their experiences. 5 answered positively without any restrictions, 3 had some restrictions, 1 answered negatively (Bavarian National Library).

Those libraries which made no restrictions took the copies as their preferred, or almost their only source of information, about German publications and new editions. One university library and one public library used the catalogue cards sent in advance as order-forms for the bookseller. They also served as a help in cataloguing. 4 libraries declared that they could use the copies without any change. But no library used the copies as catalogue cards for their own catalogues (because of different cataloguing rules or of the inadequate quality of the copies).

Since December 1971 all libraries have participated in a second series of tests, with the exception of the Bavarian National Library in Munich, the University library of Marburg and the University library of Bochum (the latter however gets the tapes). Catalogue cards are now replaced by copied working sheets since the DB is using the new analytical format.

The DB hopes to be able to replace the copied working sheets by printed catalogue cards, perhaps already by summer 1972, if we will send both (the copied working sheets and the printed catalogue cards) to the libraries.

The DB also participates in the Shared Cataloguing Programme of the Library of Congress. The LoC has established a field office in Wiesbaden at Harrassowitz. There the most important new German books are selected and bought which are considered to be of interest for the LoC and other American libraries. In the field office a pre-title entry is made for the LoC, for which purpose the copies of the DB, which are sent each week to Harrassowitz are used.

6

If the field office does not get a copy from us within a fortnight, it make its own title entry. As the DB gets many books and periodicals less quickly than Harrassowitz, in spite of the 1969 law on deposit copies, the percentage of books catalogued by the field office itself is very high (about 50%). During the last quarter of 1970 36% of the title entries of Harrassowitz were made according to the material of the DB, 13% according to the material of the National Bibliography made in Leipzig.

We know that the field office cataloguing could be reduced to 40%, if Harrassowitz would wait 14 days more; it could be reduced to 30%, if people would wait a further four weeks i.e. six weeks in all.

We hope that a new experiment, which is planned to start on 1 July 1972, will permit us to obtain the remaining 30% of important German publications, which arrive much later at the DB than at Harrassowitz or which are never sent to us at all. We have made an agreement with the field office whereby all books received by it are immediately sent to the DB. Here they are checked and catalogued. Those books and periodicals which have not been sent to the DB by the publishers, can then be claimed.

The Deutsche Bibliothek hopes to contribute to the Shared Cataloguing scheme with all these activities and series of experiments both at national level as well as on the international level.

COUNCIL OF EUROPE
CONSEIL DE L'EUROPE

Strasbourg, 28 April 1972

CCC/ESR (72) 31

Or. Fr.

Meeting of experts on "shared cataloguing"
in research libraries

Strasbourg, 6-8 June 1972

Working paper
drawn up by
J. P. DUCARME

7/8

Shared cataloguing: General comments

Soon after the "National Programme for acquisitions and cataloguing" was approved in the United States in 1965, "shared cataloguing" became the accepted term for this project, both in its country of origin and abroad, although it in fact only refers to one part of it. The main phases of the programme need not be discussed here, but it is continuing to expand, and its most striking achievement during the past year has been the inclusion of Spanish titles (1).

From the outset, this programme attracted considerable attention outside the United States. Cataloguing in particular required co-operation between libraries on an international scale, and the US authorities, especially the Association of Research Libraries, which instigated the scheme, and the Library of Congress, which is conducting it, have made the results available to the international Community. When shared cataloguing was first introduced in an international context - at the General Council of the International Federation of Library Associations in The Hague in 1966 - it was welcomed by the UNESCO Representative as a possible system of universal bibliographical control. Although initial European reactions, at the IFLA General Council in Frankfurt-am-Mein in 1968 and in subsequent surveys carried out by the Deutsche Forschungsgemeinschaft, have shown that it cannot yet be regarded as such (2), the US authorities are correct in claiming that the National Programme has achieved more for communication in the field of international bibliography than any previous project. Undoubtedly it has also received the largest grant ever made for a bibliographical scheme: $7,145,000 was requested for 1972.

Whatever its limitations or the criticisms that have been made, this project has the great advantage that it does exist and gives libraries in the United States a definite lead over European libraries with regard to co-operation. The concept of Universal Bibliographical Control (UBC) and progress in the field of automated cataloguing are two further positive results.

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(1) See Shared cataloguing by the same author in the UNESCO Bulletin for Libraries, No. 2, pp. 62-72 and No. 3, pp. 126-138, 1970.

(2) Kaltwasser, F.G., Internationaler Austausch von Kataloginformationen. Das "Shared Cataloguing Programme" der Library of Congress in Europaisches Sicht, in Libri No. 3-4 pp. 237-256, 1968.

De Vrieze, F.: The Library of Congress National Programme for Acquisition and Cataloguing: European Perspectives, in Libri, Nos. 3-4, pp. 257-261, 1968.

F. G. Kaltwasser has published an article actually
entitled <u>Universal Bibliographical Control</u> in the UNESCO Bulletin
for Libraries (1), setting out a genuine plan of action to
achieve this distant goal. As this meeting is to discuss one
specific aspect of this plan, it may be worthwhile recalling
that the author "outlines a plan for the systematic handling
of bibliographical data from the time a book is printed anywhere
in the world until its cataloguing, in libraries". He discusses
questions relating to the sources of bibliographical data
(scope and contents of existing national bibliographies, legal
requirements governing the recording of literature in national
bibliographies, demand for the most complete possible listing
of literature in existing national bibliographies, steps to
speed up the listing of publications in national bibliographies,
creation of national bibliographies in developing countries,
pre-publication cataloguing notices attached to books), problems
of standardisation to achieve compatibility of bibliographical
data (technical standardisation, organisation of bibliographical
data on data carriers, standardisation of cataloguing rules,
standard bibliographical description, list of uniform headings,
international standard book numbers, standardisation of subject
analysis) and organisation problems (establishment of machine-
readable bibliographies, establishment of regional centres for
revision and distribution of machine-readable bibliographical
data from other countries, establishment of data banks for
older entries). The author's conclusion is obvious: "Universal
bibliographical control is a comprehensive project which can
serve to regulate in a convenient and rational manner a clearly
defined complex of information, namely that provided by the
alphabetical cataloguing - and possibly also the subject
description - of books. For the benefit of libraries and science
alike the expansion of this information must needs be matched
by a modern concept of control."

Before considering this plan at the present meeting, it
may be worthwhile to point out that it applies only to control of
books or monographs and, in this respect, supplements the
<u>Unisist</u> project, the world science information system drawn up
by UNESCO, the International Council of Scientific Unions and
professional associations of experts on scientific information (2).

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(1)   No. 5, pp. 252-259, 1971.

(2)   Unisist, Study on the implementation of a world science
      information system carried out by the United Nations
      Educational, Scientific and Cultural Organisation and the
      International Council of Scientific Unions, UNESCO,
      Paris, 1971.

      Unisist. Intergovernmental Conference on the establishment
      of a world science information system, Paris, UNESCO,
      4-8 October 1971. Final report.

Unisist is more ambitious in that it is not restricted to books but covers all forms of data carriers containing scientific and technical information, and there are plans for extending it to the social sciences and humanities at a later stage. Universal Bibliographical Control, on the other hand, makes no selection of the kind of books published and, indeed, its comprehensiveness is an important feature of the system.

From a European point of view, the three series of questions referred to by Mr. Kaltwasser are of different kinds. The first, concerning sources of bibliographical data, can basically be regarded as solved. Admittedly there is still room for progress - more in some countries than in others - but for the most part specifically national action is necessary and this matter is therefore not a suitable subject for European discussions. The only item on Mr. Kaltwasser's list that has not yet been put into practice in Europe is pre-publication cataloguing of books. The American study to which he refers has since been completed, and inclusion of this matter on the agenda for our meeting, is a constructive move. Although I do not wish to anticipate the talk, nor the ensuing discussion, it is not difficult to forecast that it will include the customary European pattern, i.e. situations varying widely from country to country, especially in respect of relations between publishers and the authorities responsible for publishing national bibliographies. Discussion should preferably also cover international publications in Europe since the environment in which these appear is less bound by strong national traditions.

The second series of problems, viz. standardisation to achieve compatibility of bibliographical data, must be a focal point for our discussions here in Strasbourg. As far as standardisation difficulties in connection with computers are concerned, we have the advantage of still being at an early stage as regards the use of bibliographical data recorded on magnetic tape. The work done by the originators of MARC I, and especially MARC II, can be quoted an example, and it is natural that MARC II should occupy an important place on our agenda. Despite the fact that MARC is to some extent the product of bilateral consultations between the USA and United Kingdom, the programme has had the great advantage of being based on a single language and an established common tradition in the Anglo-American cataloguing code. Although differences in language and cataloguing systems in Europe are inevitably essential issues at this meeting, MARC has the merit of being used outside the production centres and even outside the Anglo-Saxon world, for instance in the Monocle (France) and Pica (Netherlands) projects.

CCC/ESR (72) 31   - 4 -

The Federal Republic of Germany was the first to compile a national bibliography by computer (1966), followed by the United Kingdom (1971). Spain's bibliography has been awaited for some time, while a commercial bibliography has started to appear in the Netherlands (1971) and the French and Belgian programmes are nearing completion. It would be helpful if at this meeting we could be given exact details of the situation in other European countries. Computerisation has the merit of raising once again the problem of national cataloguing traditions. Fortunately the IFLA has been studying the international standardisation of cataloguing principles since 1961 and, in this conservative sector, can pride itself on having already made considerable progress. In 1969 the matter was reviewed and an annotated edition of principles published (1). Much remains to be done but work is proceeding satisfactorily. Although it is not intended to discuss this subject here, participants should be encouraged to take action in their respective countries to promote the sought-after standardisation and abolish individual local differences, which are often out-of-date. The progress of the Unisist project, combined with computer power, can also be expected to have a favourable influence on the evolution of attitudes (2).

Standard bibliographical description is fundamental to compatibility. Here again the IFLA has made a valuable contribution in drawing up the "international standard bibliographic description for single volume and multi-volume monographic publications", approved by its 37th General Council at Liverpool in 1971, and the draft "international standard bibliographic description of serial publications", which has still to be submitted for approval to the 38th General Council to meet at Budapest this year (3). To provide a complete

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(1) Verona, E. and others, <u>Statement of principles adopted at the International Conference on Cataloguing Principles, Paris, October 1971.</u> Annotated edition, London, 1971.

(2) These questions will probably be discussed at the seminar on <u>Universal Bibliographical Control</u> to be organised in London from 16-21 November 1972 by the IFLA Committee on Cataloguing.

(3) International standard bibliographical description for single volume and mult-volume monographic publications recommended by the Working Group on International Standard Bibliographic Description set up at the International Meeting of Calaloguing Experts, Copenhagen, 1969.

London IFLA Committee on Cataloguing, 1971

International standard bibliographic description of serial publications, draft prepared by the IFLA Committee on serial publications, submitted to the Working Group for examination, IFLA January 1972.

picture, the projects in this sector announced in the Unisist preliminary study published in 1971 (1) should also be mentioned. The relevant standards have not yet been published and the central question of compatibility must be taken into account. The work of the IFLA Committee on Cataloguing with regard to the introduction of uniform headings on cataloguing notices (2) also goes forward, but here the question of collective authorship remains an obstacle. A rather paradoxical situation has arisen in that although the whole concept of collective authorship originated in the United States, its international application has been entrusted to Soviet experts. A team of European librarians might, with advantage, give some attention to this question - to phrase it euphemistically.

This team should also review the question of international book and periodical numbers. Such schemes are not new in Europe. The United Kingdom introduced the ISBN in 1957 and was followed very soon afterwards by the United States, at the instigation of publishers. Several European countries, e.g. the Federal Republic of Germany, the Netherlands, Norway, etc., have since adopted the Anglo-Saxon standards.

The French-speaking or partly French-speaking States have agreed to set up a single numerical cataloguing agency with its headquarters at the National Library in Paris. Here too this meeting could be helpful in collecting exact information. As far as the ISSN is concerned, US initiatives, especially those of the National Library of Medicine, have been overtaken by the French offer, made during the "travaux préparatoires" on Unisist, to set up a single international numerical cataloguing agency at the National Library in Paris, in the context of a far wider project. The French Government has indeed decided to set up, in conjunction with UNESCO, an international centre for an international serial data system, referred to, under a different name, in Recommendation 3 of the Unisist proposals. This offer was accepted at an intergovernmental conference in October 1971 at which the possibilities of implementing Unisist were examined. For the time being, the British organisation responsible for standardisation is in fact carrying out the functions of an international agency for numerical cataloguing of books. Soon it will undoubtedly become advisable to clarify at short notice the attitude of librarians to these two systems of numbering.

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(1)   Unisist, Study on the implementation ..... p. 108.

(2)   Honoré, S. Names of States: approved forms for catalague entries. IFLA, Paris, 1964.

      Pierrot, R. Anonymous classics: list of uniform titles. IFLA, Paris, 1964.

Before considering the problems of technical standardisation and diversity of language in Europe, it might be helpful to re-examine the question of the availability and accessibility of third world publications in Europe. This is a complex question, and the colonial past of many European countries is not calculated to simplify matters. Often these countries possess historic collections of great importance to certain parts of the world, yet frequently sources of supply have dried up since the new nations gained their independence. A detailed and up-to-date inventory would be most useful (1). In the United States, effective methods of collecting publications from the third world have been introduced: the well-known PL 480 since 1958 and the National Programme of Acquisitions and Cataloguing since 1965. The results of these efforts are reported regularly in the Foreign Acquisitions Newsletter of ARL (2). The article by F. de Vrieze, referred to above (3), outlines a European answer to the American offer to share these results. It would be worth while reconsidering the matter at this meeting.

Technical standardisation continues to cause a large number of serious problems. European countries are not benefitting from the undeniable advantages of increased uniformity in the various makes of computers, but use different machines and thus have to overcome the difficulties of converting imported programmes. Although computers themselves are developing along lines that make conversion simpler, a large part of the available energy and skilled manpower continues to be absorbed. The two most important European symposia on computerisation of libraries held at Regensburg in 1970 and Berlin in 1971 (4), have shown that it is necessary to restrict the number of participants attending such meetings and to narrow the subject of discussions increasingly if practical results are to be obtained.

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(1) Catalogue of African official publications available in European libraries. Compiled by the Staatsbibliothek Preussicher Kulturbesitz, IFLA Committee for Official Publications, Berlin, 1971.

(2) First published in 1949.

(3) See p.1.

(4) Unesco-Seminar Elektronische Datenverarbeitung in Bibliotheken, Regeisburg 13-18 April 1970, Libri, Vol. 21, Nos. 1-3, Internationales Seminar über das MARC II-Format und den Austausch Bibliographischer Daten in maschinell lesbarer foem, Berlin, 14-18 June 1971.

The decision to limit the present meeting to shared
cataloguing in Europe may therefore seem fortunate at first
sight, but it is also debatable whether some specific aspect,
e.g. linguistic factors, should not have been chosen. However,
it is difficult to suggest such a specific line of approach
when participants have not been able to discuss the matter
beforehand. The present initiative undoubtedly affords
an opportunity for such discussions, and if these should produce
some parameters facilitating detailed examination of one or
other of the themes arising at the meeting, our joint efforts
will not have been in vain.

In conclusion, I am convinced that this is a historic
moment in the evolution of our profession. Will our generation
be the one to do away at last with the useless and tedious burden
of cataloguing over and over again every book that enters our
libraries? Being world-wide in character, our venture will
entail co-operation on the local, national, regional and
international levels. We are meeting here to discuss one
important aspect of this huge programme. A number of
achievements can be quoted as guidelines for future efforts,
and it is up to us to draw the final conclusions.

20

COUNCIL OF EUROPE
CONSEIL DE L' EUROPE

Strasbourg, 19 May 1972

CCC/ESR (72) 35
Or. Engl.

COMMITTEE FOR HIGHER EDUCATION AND RESEARCH

Meeting of experts on research libraries:
Co-operative cataloguing

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Strasbourg, 6 - 8 June 1972

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The uses to be made of MARC input

by P. Brown

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Working paper

It cannot be claimed that the use of MARC records by libraries has so far been a rapid or even an entirely successful operation. It is now six years since the first experimental form of MARC record was designed and in terms of normal data processing development this is long enough for widespread and general use of this form of record to have taken place. But still relatively few libraries have attempted to make use of the MARC record for their operations, whether by use of the MARC records produced centrally by the Library of Congress and the British National Bibliography, or by the creation of their own MARC records. Nevertheless there can be no doubt that in the United States of America and Great Britain the MARC record itself is regarded as the form of record in which bibliographic information should be handled by computer. I shall therefore consider in some depth in this paper the special characteristics of library data processing by computer and some of the reasons that have led to slow and even reluctant development in the use of the MARC record up to now. On the other hand, I shall also point to the use of MARC records that has taken place and indicate what hopes this development portends for libraries in the future.

The development of MARC records

It is interesting and perhaps instructive to look back at a significant event in the early interest in library computer processing, the Brasenose Conference of Library Automation held at Brasenose College, Oxford in June 1966. For it was at this Conference (restricted to American, British and Canadian participants) that the form of MARC records was first discussed outside the United States and that the prospects in the use of MARC records were first surveyed in an international context (even if limited to these three countries).

At the time, of course, the only significant experience of library computer processing was in the United States, and even there in very few libraries. In Britain only two libraries, one a public library system and the other a relatively small university library, had at the time established any computer operations, although there was already considerable interest among the major British libraries in the developments that had taken place in the United States and in particular in the developments that were being planned by the Library of Congress following the 1963 report Automation and the Library of Congress. It was to the Library of Congress that both American and British libraries were looking for the development of a machine-readable record for the distribution of bibliographic information.

The paper that Mrs. Avram and Mrs. Markuson, both of the Library of Congress, presented to the Brasenose Conference was entitled "Library Automation and Project MARC: an experiment

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in the distribution of machine-readable cataloguing data".
The title itself provides a clear indication of the inherent
features of the MARC record that was being planned at that time.
Project MARC was an experiment based on the hypothesis that it
is feasible to produce a standardised machine-readable catalogue
record that can be manipulated and reformatted in local instal-
lations to serve local practices and needs. It should not be
forgotten that the MARC record was from the beginning constructed
as a catalogue record and that it was a fundamental concept of
MARC that records should be created centrally and distributed
to libraries who would themselves make whatever modifications
to the record that might be necessary for their use locally.
It was not, of course, envisaged that MARC records could be
used solely for the construction of catalogue entries, even
if this activity was seen as the basis for deciding the major
part of the information content of the record. Fifteen libraries
in the United States and one in Canada collaborated with the
Library of Congress in the experiment and proposed a number of
specific uses to which they planned to put the MARC data such
as:

(1) Search of incoming MARC tapes against machine-readable
     faculty interest profiles to test feasibility of
     selective dissemination service on a university
     campus;

(2) Selection of juvenile titles to prepare listings
     for use in library school courses in children's
     literature;

(3) Book catalogue studies;

(4) Test suitability of data for university book union
     catalogue;

(5) Preparation of machine-readable book cards;

(6) Use of MARC data for local on-line testing;

(7) Experiments with bibliographical projects in reference
     department;

(8) Correlation of subject headings and main entries;

(9) Use of data for acquisitions routines;

(10) Create list of publishers who publish books about
     Latin America;

(11) Test concept of development of regional distribution
     centres for machine-readable data;

(12) Study authority file problems in a mechanised system.

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Further libraries did in fact receive the records indirectly but this list covers the range of experimentation.

The Library of Congress report on the Project MARC experiment shows how far in fact the libraries were able to carry out their intentions and with what success. Some have since continued with the activities they carried out during the experimental period; others have turned to different uses of MARC records from the uses they first experimented with, while others still did not go beyond their initial experimentation and undertook no permanent developments for the use of the records.

Long before the report on the Project MARC experiment appeared, the next development had taken place. This was a survey of the MARC record by the Library of Congress with the participant libraries and, of even greater significance, with the British National Bibliography. It was from these discussions in 1967 and 1968 that the MARC II format emerged. The significance of the production of MARC records by the British National Bibliography was perhaps not at first fully apparent. The original development of MARC by the American Library world had envisaged the Library of Congress, perhaps with the assistance of the other Title II libraries, as being the sole producer of MARC records for distribution to American libraries. Conceived very much in terms of catalogue records obtainable from a single centre, MARC was seen in many respects as a machine-readable version of the Library of Congress catalogue card service for current publications from throughout the world. The partnership that began with the British National Bibliography in constructing the specification for the MARC II record was, I think, seen by the Library of Congress as a machine-readable version of Shared Cataloguing, the cataloguing information part of the Title II operation. Just as the British National Bibliography had been the first national bibliography to provide a service of cataloguing information to accompany the current British publications that were being acquired under the Title II operation (and there was every reason for this, as the greatest number of published titles in any country came from British publishers), so could MARC records from the British National Bibliography form the beginning of a similar network of national bibliographies to provide the same service in machine-readable form. Such a transfer of the Shared Cataloguing operation to the form of MARC records was not, so far as I know, a conscious policy decision by the Library of Congress at the time, but the subsequent great interest of the Library of Congress in European developments covering both the form of cataloguing information and the creation of machine-readable records indicates that Library of Congress policy now lies in this direction.

Certainly the few British librarians involved in the development and use of MARC records looked, perhaps unjustifiably, for some years to the Library of Congress as the source of MARC records to cover current world publications. But by 1969 this

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had ceased to be so and these British librarians began to look
to the British National Bibliography as the national centre
which should collect machine-readable records from other national
bibliographies, including of course from the Library of Congress,
for distribution in the form of MARC records as required for
the use of British libraries. And it is towards this develop-
ment of exchange of machine-readable records for current
publication between national bibliographies that progress is
being made in a number of ways. The standardisation of the
presentation of bibliographic information, the international
standard book numbering system, the international standard
serials numbering system already give every reason for hope
of success. Agreement on the requirements for the international
handling of machine-readable records has still to be reached.
As useful international exchange of records is so dependent
upon this agreement, I shall return to this question in more
detail in the next section of this paper

MARC II: the exchange format

I have already indicated the basis of cataloguing infor-
mation with which MARC began. The development of the present
MARC II record has continued this pattern so that information
for the production of the catalogue entries for a book still
forms the largest part of the record. More specifically, the
pattern of this information follows closely the information,
both explicit and implied, of the Library of Congress catalogue
card. Although the MARC II record can be used in the context
of most library operations, the form of the record is biased
heavily towards the operation of producing catalogue cards.
That the information needed for catalogue entries should pre-
ponderate in this way is by no means a disadvantage, for
catalogue requirements impose a greater total of bibliographic
information than any other single operation. All other
operations are likely to require at some stage in their process
some part of this cataloguing information as well as other
information in the record. It is however a defect of the MARC II
record that it lacks provision of information needed for catalogue
entries for a book-form dictionary catalogue. It is in this
context particularly that the Library of Congress and the British
National Bibliography have followed different paths of develop-
ment.

The purpose for which the MARC II record was designed was
to provide a form of machine-readable record that would permit
the exchange of records, both between national bibliographic
centres and between a national centre and users. In the context
of the exchange of records between national bibliographic
centres there were different approaches between the immediate
plans of the Library of Congress on the one hand and of the
British National Bibliography on the other. The Library of
Congress was concerned primarily with the production of catalogue

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cards from MARC records, either centrally or, by distribution
of MARC tapes, locally in libraries. The British National
Bibliography was concerned primarily with the production of its
cumulating weekly lists. This divergence of interest led the
Library of Congress to disregard many aspects of the filing of
entries automatically by machine sorting, an operation that was
essential for the production of the BNB lists. As a result
there are two forms of MARC II record, the American and British,
with the extent of filing information forming a significant
detail of divergence between the two. Even BNB has included
within the British MARC record only those filing controls
needed for its own weekly lists and this is insufficient for
the automatic filing requirements of libraries. I have high-
lighted this divergence because the policy decisions leading to
it are very clear. There are many further differences between
the US and the UK MARC records, some consisting of merely
arbitrary differences in decisions on coding and these can mostly
be translated automatically from one record format to the other,
others reflect different approaches to certain cataloguing
details between the two countries (some of which are translatable
automatically while some are not), and others still which reveal
a particular information need which exists in one country and
not in the other (and here automatic translation is de facto
unlikely to be of interest even where it is possible; trans-
lation in any case is clearly only one-way, from the record
containing this additional information to the one without it).
The differences between the US and UK MARC record are already
significant and it is a matter of great concern that the two
services are continuing to diverge rather than converge in
practice.

These differences notwithstanding, the type of record called
MARC II has become established in the US, Canada and Britain
as the basic bibliographic machine-readable record. Any other
forms of machine-readable bibliographic record are in these
countries measured against the general MARC II format in terms
of compatibility, that is to say in terms of the feasibility of
automatic conversion into MARC II records.

The information in MARC II records is sufficiently exten-
sive that most other records produced locally by libraries are
likely to convert only into a simplified form of MARC record
with many of the items of MARC II information unidentified or
missing and without many of its controls.

From the point of view of international use of records it
is essential that there should be international agreement on
what identifiable information (whether text, signals or
controls) needs to be included, and what controls of the
information are needed. If such international agreement can
be reached the question of the actual record format is
ultimately of less consequence for automatic conversion is
then possible.

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The MARC II record is itself by no means perfect for handling, even in the BNB form which provides more information for general library handling of records on an international scale than the Library of Congress record, which is aimed particularly towards serving the needs of American interests and practices. Already the conversion of US records into UK records requires some manual editing by BNB, particularly to identify segments of text that are not separately identified in the US record. The Library of Congress on the other hand has particularly to add information that is completely absent from the UK record to obtain a full US record.

It is in this context of the growing divergences between the US and UK MARC records as well as of the increase in the number of national bibliographic centres in the world who are producing or preparing to produce machine-readable records for all current publications, that the concept of SUPERMARC has been evolved by BNB. An international exchange format, SUPERMARC, would provide a basis for translation to and from any national record, and in such a way that translation was automatic. As has already been seen in the case of the US and UK MARC record, nations differ in their views of the depth of analysis of bibliographic data that is necessary and also need to make provision for particular national requirements. This means that the international exchange of records will inevitably imply editing as well as translation, but SUPERMARC would provide a single pattern of record format which would contain an internationally acceptable level of information content and control, while still allowing individual national needs to exist outside this agreed international pattern. National records would need to contain information at a level that would permit automatic translation into SUPERMARC, while translation from SUPERMARC to a national record would probably be only partly automatic with some manual addition of information. In the operation of such an international exchange of records the existence of SUPERMARC would reduce enormously the number of translation programmes that would be required as each national bibliography would require only two computer programmes for all exchanges, one to translate its own national records into SUPERMARC and one to translate SUPERMARC records into its national records (with known situations of where editing or additional information would be needed for this).

The term SUPERMARC does not imply that an agreed international exchange record should bear any resemblance to the MARC II format. There are indeed some basic features of the MARC record that are distinctly disadvantageous as far as computer space and time are concerned: the use of characters rather than bits for control purposes and the system of unaddressable sub-fields within addressable fields. Nevertheless the large quantity of records now in existence in MARC form must have some implications in reaching agreement on the information content and the level of identification in a SUPERMARC record, no matter how these may be represented.

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I have described at some length the development of MARC and the international problems that now present themselves. I have done so because these questions ultimately form the fundamental background to the use of centrally produced machine-readable records by research libraries whose acquisitions extend far beyond their own national publications. Even in the context of the United States and Britain a SUPERMARC record may soon be necessary as an exchange record between the divergent US and UK MARC II records. The increase in the number of other national bibliographies producing machine-readable records is certain to reinforce even further this vehicle for international exchange.

The national function of an exchange format is quite a different matter. Already in the United States and Britain the separate national needs are to some extent provided for by the US MARC record in the one case and by the BNB MARC record in the other. In this context the distribution and exchange of bibliographic records can take place on the basis of a standardised pattern of information that is generally acceptable within a country and make provision for communication in the form of machine-readable records between libraries or between libraries and a national centre, for purposes such as the building up of a retrospective national file of records from the holdings of a number of libraries. I shall return to the matter of record creation by libraries as well as to the question of retrospective conversion, but I shall concern myself first with more detailed aspects of the distribution to libraries of records for current publications by a national centre.

MARC service to libraries

Both the Library of Congress and the British National Bibliography introduced a service of MARC records to libraries on an experimental basis in the first instance. There were clear advantages in doing so, firstly because this enabled the unforeseen difficulties of record production to be solved while libraries were themselves merely carrying out experiments in the handling of records (and therefore not dependent upon the service for their library operations), and secondly because it allowed for the comments of the libraries (based on their experience in the experimental handling of the records) to provide guidance for the establishment of a permanent service. It was, in fact, the differing reaction of British as against American libraries that contributed subsequently towards many of the divergencies between UK MARC and US MARC, although the differing intentions of BNB and the Library of Congress in their own use of the records provided additional reasons for divergence, as I have already indicated.

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With the introduction of a permanent service of MARC
records the relationship between the national centre and the
library users changed abruptly and significantly if the library
users had ceased to experiment and had built the use of MARC
records into a regular library process, whether this was book
selection, acquisition, catalogue or catalogue card production,
a current awareness service or any other regular service.

Two requirements of libraries were seen clearly in the
early stages of the experimental period: adequate coverage and
currency of records. In an experimental context inadquate
coverage or currency of records might provide problems; in an
operational context such inadequacies might well be catastro-
phic.

For libraries acquiring the publications of many countries,
the question of coverage is inevitably still only partially
satisfied by the US and UK MARC records. Nevertheless it forms
an important part of processing to know that it is worthwhile
searching a file for the MARC record for, say, any British
current publication. On the other hand, in the context of
book selection or of current awareness inadequate coverage
provides an inadequate library service. The question of
currency of records is related to that of coverage, for
again it forms an important part of processing to know when it
is worth searching a file for a required MARC record, but
perhaps more important is the fact that library processing
cannot be held up indefinitely while the hoped for arrival of
records is awaited.

One obstacle that was not foreseen, although it became
apparent early in the experimental periods, was the problems
arising from the distribution of inaccurate records. Not only
can initial inaccuracies, whether in text or in controls, lead
to processing errors (particularly in any automatic library
process where there is no manual check on results), but long
delays in the issue of corrected records can lead to
insurmountable operating difficulties.

I can speak with extensive knowledge only of the BNB MARC
service whose performance in coverage, currency and accuracy
was during its experimental service up to the end of 1970
inadequate for reliable library processing but which has improved
markedly since that time (although coverage is still not
sufficient). For the time being, at least, the users of the US
and UK MARC service have to accept that only a part of their
library processes can be operated with the records that these
services provide. This means that, say, in the process of
catalogue production libraries must at present be prepared to
create their own records for those publications not covered by
these MARC record distribution services; or, say, in the
process of acquisition be prepared for the time being to operate
a MARC record process for some publications and a manual process
for others.

This brings us to, perhaps, one of the prime reasons for
the reluctance on the part of most librarians up to the present
time to commit their library operations to reliance upon MARC
records. The limitations of the present services of machine-
readable records that I have described produce not a simpli-
fication of library processing but a temporary complication
that, unless strictly controlled, could lead to a severe
disturbance of library processes. As a result, only those
libraries with a clear understanding of the factors involved
and with a firm belief in the future development of these
services have ventured to commit their library processes to
reliance upon MARC records.

The relatively small scale of serious use of MARC records
by libraries has presented some difficulties to both the
Library of Congress and BNB, because there is still only a very
limited range of knowledge and experience in libraries of the
handling of information in MARC form. This has meant that the
decisions on the content and control of information in the
record have had to be made on the basis of comments of only a
small part of the library community. There has not been a clear
specification of library needs for a Library of Congress and
BNB to work to, nor is there likely to be a specification
covering a possible wide variety of libraries and library pro-
cesses in large numbers for some time to come.

It is very clear, as foreseen at the very beginning by
the Library of Congress, that the MARC record can be operated
in the context of a number of library processes. The record
needs to be able to operate not only in single processes, such
as acquisition records, catalogue production of all kinds, SKI
services, etc. but in complex automatic systems covering a
number of processes or in systems of only partially related
processes. The need for flexibility in the use of MARC records
is paramount if the use of MARC services is to expand rapidly.

The experience of those libraries who have undertaken
serious processing with MARC records - that is to say with some
sense of absolute commitment to such processing - has estab-
lished clearly that there are three types of information in a
MARC record:

    (a) Information for identification and retrieval;

    (b) Information for arrangement;

    (o) Information for display.

The first of these is the most significant in all
operations since no processing of any kind can be carried out
unless items of information can be correctly recognised. This
category of information covers a wide variety of items, from

the unique record numbers (Library of Congress card numbers,
Standard Book numbers, BNB numbers) to classification
information, or controls such as tags, identifiers and sub-field
codes, or dates, languages, and so on. Correctness and
consistent application of compilation rules during the creation
of records is of absolute necessity if items of information are
to be reliably identified and retrieved during handling of the
records for library operations. It is in deciding on the level
of detail needed for recognition that experience and knowledge
is needed from a large number of libraries operating a wide
variety of processes.

For many processes information for arrangement is a
fundamental requirement for any form of listing. In order that
sort keys may be formed from the records that will produce a
useful sequence for output, many identifications are necessary
that go beyond the field and sub-field information given by the
controls. It is in this area particularly that the present
MARC record needs further development; again, more widespread
experience in the use of the records by libraries would provide
clearer evidence of precisely what is needed, whether the
existing arrangement information in the record is required and
used, as well as whether further information is necessary.

The information for display is of a much more conventional
type, consisting in text (of whatever sort) that is needed for
visual output. The requirements are traditional in that
correctness and complete coverage of letters and symbols are in
some areas essential and in other areas only desirable (in some
areas unimportant even). Just as correctness in the text in
the case of some items of information is essential for correct
arrangement in listing (in order that visual retrieval of
information may be possible), so correctness in the text for
some items of information is essential for display for the
purposes of visual identification.

It would clearly be useful for the Library of Congress and
BNB as well as for other national record producing agencies to
know which information items in records are regarded by libraries
as being the most sensitive in these three functional areas of
identification, arrangement and display. The greatest possible
scrutiny for errors during record creation could then be
concentrated on these items.

The development of the MARC record is still not completed
but there are obvious dangers in further development taking place
on the basis of the experience of a relatively small group of
libraries. It was not long ago that only about a dozen research
libraries in the United States and Canada had fully committed
their processes to dependence upon MARC records, although the
number is now, I believe, rather larger. In Great Britain and

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Ireland only two research libraries have so far committed their
operations to complete dependence. There is a number of fully
committed libraries also among the public and special libraries
of these countries. Some further libraries are approaching
committed use of MARC records and there seems to me now to be a
rising tide of interest among many more libraries in the
possibilities of operations with MARC records.

The increase in range of knowledge and experience that would
arise from greater use of MARC records is essential to the
development of the MARC record itself, if it is to be sufficiently
flexible and informative to meet the needs of an even greater
number of libraries.

International development in bibliographic records

I have already indicated that there are several inter-
national developments that greatly assist the international
exchange of machine-readable bibliographic records.

The international standard book number ISBN, as it is
increasingly used, provides a record control (and by implication
a bibliographic control) that is immeasurably superior to any-
thing that has existed in the past. The operation of matching
books with machine or visual records, whether operationally in
library processing or in bibliographic work becomes an entirely
straightforward and fool-proof process for every book that has
its ISBN printed in it. There can be no question that the
introduction by BNB of a standard book numbering system, which
led to the ISBN, formed one of the most important steps that has
ever been taken in bibliographic control. Its significance in
the use by libraries of machine-readable records for books
is at once apparent, for the ISBN provides the essential simple
link between books and records. It is interesting that is has
already provided a simple and economical basis for a system of
recording the holdings of a group of libraries in the London
and South East region of England, the LASER system.

Similarly, the present development of an international
standard serials number will provide a means of processing
serial issues in libraries that has been sorely needed. It is
significant that the lack of a simple means of identification
has been the greatest stumbling block to the development of
efficient processing of serial issues.

In a different context the development of a standard book
description SBD should provide the context for agreement on
the range of information and level of identification needed for
an international machine-readable record (SUPERMARC) that will
form the basis for the international exchange of records that I
have described earlier in this paper. The MARC record has
the very great advantage of being based on the Anglo-American

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Cataloguing Rules of 1967, AACR. This provides an agreed
foundation for the two record producing institutions, the
Library of Congress and BNB.

The MARC record reflects these cataloguing rules very
closely and is therefore a strong link between the American
and British versions of MARC, even though AACR was established
without any consideration of machine-readable records and
computer processing. It is, I think, in some respects unfor-
tunate that MARC adheres so closely to AACR for this suggests
that the adoption of MARC by the national bibliographies of
other nations is dependent upon acceptance of AACR. Perhaps
one of the greatest difficulties that other nations see in this
is the matter of choice of main heading. During the British
preparations for the Paris Conference on Cataloguing Principles
I questioned very seriously the need to continue the practice
of selecting a main heading, but the concept is firmly embedded
in AACR and forms the greater part of these rules. A few
libraries who have undertaken the use of MARC records for
cataloguing production have rejected the concept of main
heading for computer produced catalogues, and have based their
bibliographic entry control on record numbers or title. BNB
is also now convinced that main heading is not of significance
in machine operations. If this aspect of AACR can be set aside
in the attempts to reach agreement on the bibliographic basis
for international machine records, there remains the need to
reach agreement on the other aspects: forms of headings, the
content of bibliographic description and the level of iden-
tification of individual items of information in both headings
and description.

It is evident from the different use of AACR by the Library
of Congress on one hand and by BNB on the other that exact
agreement in every detail is not essential. As I have already
indicated, a certain amount of manual editing is almost
inevitable as part of the process of translation from one nation's
form of machine-readable records to the records used by another
nation (even with the intermediary stage of SUPERMARC), but
clearly there should be a very considerable part of the infor-
mation that can be translated from one record to another by
machine entirely automatically; in addition the areas that will
require manual editing for a particular nation's requirements
should be automatically identifiable.

The developing international standard serials description
ISSD should provide a pattern for the form of international
record that will give the same benefits for handling serials
records.

The use of MARC input

All that I have said may seem to suggest that there are
at the present time still great difficulties in the use of MARC
records. It is certainly true that there are some features of

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the MARC record and of the record services that could be
improved to provide for simpler and more satisfactory operations,
and I have indicated how these improvements can be arrived at.
Nevertheless a number of libraries have committed their pro-
cesses to the use of MARC input, in the form of the records
distributed by the **Library of Congress and BNB as well as a**
result of their own local MARC record creation.

There are perhaps, three levels of use of MARC records
in libraries:

(1) Experimentation, that is to say the setting up of a
computer process to test whether a record can be handled in a
particular way, without any attempt to use the process in the
operation of the experimenting library. The Bodleian Library,
Oxford, undertook this form of experimentation during the period
that BNB was developing its record from 1969 to 1971. The work
carried out at the Bodleian was fundamentally to test BNB MARC
records in the processes of automatic catalogue entry production
and filing. It should be said that it was the original intention
of the Bodleian Library to put the results of its experiment-
ation into practice by establishing a union catalogue for a
group of Oxford libraries, but experience indicated that the
BNB MARC record and service did not meet the requirements of
such an operation; the Library of Congress MARC record offered
considerably fewer possibilities of use in this context.
Nevertheless the Bodleian experience of handling MARC records
provided BNB with a regular flow of comment, and led to a
significant number of improvements being made both in the
record itself and also in certain features of the BNB MARC
service. The experience of the Bodleian is not untypical in
that perhaps the majority of those libraries that have carried
out experiments in the use of MARC records began with the
intention of developing a usable process. The reasons for not
continuing with this intention are varied but the Bodleian has
not been alone in reaching the decision that both the MARC
record and the MARC services are still not sufficiently
adequate to support at least some library processes.

(ii) Uncommitted operation, that is to say the establishment
of a library process with MARC records, but in such a way that
the process can be suspended with no really significant effect
on the library operations. The implication of this is that a
library is carrying out a process with MARC records that is
peripheral to or even duplicating what it regards as its normal
processes and functions. There can be no doubt that such an
approach provides safeguards in that a library can continue
to function even if its MARC record operation should fail for
any reason, and it is not surprising to find that a large number
of the libraries who have undertaken the use of MARC records
have followed this approach. It is, however, striking that

43

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relatively few libraries have used this level of experience to
proceed to further commitment of their processes to MARC records,
and I think that the slow development of the MARC record and of
the MARC services is probably the principal reason for this
reluctance.   In this context it is perhaps surprising to find
that a considerable number of libraries have introduced an SDI
service on the basis of Library of Congress and BNB MARC
records but have committed no other processes; this does
seem to me to reflect a low assessment by libraries of the value
of SDI services to library operations.

(iii) Committed operation, in which some essential processes of
a library depend completely upon the input of MARC records.
Such commitment does require a very careful assessment of the
implications to the library processes and it is, I think, notable
that the libraries that have taken this step have not done so
without experiencing considerable problems in spite of whatever
safeguards they have taken. The Library of Congress and BNB
MARC record services are clearly not adequate for a research
library in coverage MARC records. It is therefore essential for
those committed libraries to create their own MARC records to
complement those that they receive from these two services, and I
think that this has provided the greatest cause for reluctance by
the majority of librarians overall to undertake the committed use
of MARC records. And yet some libraries have clearly shown that
it is both possible and advantageous to commit library processes
to MARC input, even at the present time of limited MARC services.
It is an encouraging sign that there is still very great interest
among librarians in the possibilities of the use of MARC input and
the improvement and international extension of MARC services
would clearly act as a very considerable stimulus to widespread
commitment to the use of MARC records by libraries.

There will certainly be limitations in the use of MARC
records for some long time to come and these have to be recognised.
The concept of MARC is based fundamentally on the centralisation
of effort, both internationally and nationally, and the national
centres have to undertake immense responsibilities if their
services are to lead to efficient and economical use of the
records in libraries. It is, however, for libraries to specify
to the national centres their requirements and to be able to do
so against the background of experience, for their specifications
will have to carry conviction if the national centres are to be
expected to accept the large financial costs of meeting them.

I have indicated the general requirements of MARC services
to enable libraries to use MARC records satisfactorily for
library processes such as SDI services, book selection,
acquisition, catalogue production and maintenance and serials
control, but the use of MARC input in some of these (as well as
in additional processes) poses particular problems beyond those
that I have already described.

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In the process of catalogue production and maintenance
with the use of MARC records there is a particular problem of
continuity. US and UK MARC records are based on the information
specified in the new cataloguing rules AACR, so that there is
in a library using MARC input a distinct break between past
catalogue entries and MARC entries based on AACR. Whereas I
once believed that it was valid to envisage local altering of
the MARC information to comply with local cataloguing rules
(and Trinity College, Dublin, did this to MARC input for its
card catalogue from 1969 to 1970), I no longer think this is a
viable process. For book-form catalogues there is the
additional reason for an enforced break in that pre-MARC
machine-readable records do not exist. There is, therefore,
no real choice for libraries but to begin a new catalogue with
MARC input. This requirement is, perhaps, a unique feature
of library computer processing and is not one to arouse
enthusiasm.

For many library processes traditional records are either
on a sufficiently small scale that conversion of these
traditional records to MARC form can be envisaged, or records
are sufficiently impermanent that the period of having both
old and new records is relatively short. Neither feature is
the case with catalogue records and libraries have to envisage
a long period with both old and new catalogues. It is clear
that retrospective conversion of catalogue records to MARC
form (plus the change of cataloguing information to comply
with AACR) is an enormous task and one that cannot be carried
out individually by each library. There is a particular
problem in retrospective conversion in that it is not simply
a national undertaking, for it is libraries that have the
records for conversion and the records for the past
publications of a nation are to be found in libraries throughout
the world.

In Britain it was envisaged that the British Museum Library
might undertake the conversion of its past records to MARC
form, but in practice it is the Bodleian Library that has first
undertaken, for its own needs, large scale retrospective conversion
of its pre-1920 records, albeit to a simpler form of record
than MARC and without changing to AACR. In particular, however,
the Bodleian Library established the concept of automatic field
identification, or format recognition, as part of the process
of conversion. In the United States, it is the Library of
Congress that has begun large scale conversion but working
backwards in time from the introduction of current MARC records
and beginning with English language records. It will be many
years before retrospective MARC records are available for the
major part of the holdings of the larger research libraries,
so that libraries are faced with the prospect of a long period
of divided catalogues.

46

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The inadequate basis for subject retrieval information in both US and UK MARC records is a reflection of the limitations of the subject information generally used in these two countries. But it is significant that the present MARC record and MARC services do not provide a basis for the economic search by subject, or indeed by any other aspect, of records from a large file. As files of both recent and retrospective MARC records grow larger it will be essential to have a linking or indexing system to enable rapid computer searches of a file to be carried out. In this context it is a matter of concern to libraries that a multiplicity of forms of machine record has already been developed for the various abstracting and indexing services. There is little likelihood at present that these services will change to a form of record that can be used at any level as a link to MARC records, so that automatic linkage between these records and library records must remain merely a hope for the future.

The approach of libraries to MARC input

The promising advantages to be derived from computer library processing appeared in the 1960s to be both large and immediate. The many false starts have shown, however, that such processing can contain many pitfalls for a library. It is not surprising that the concept of national centres for the production of machine-readable library records was seen as an important step in solving many of libraries' problems in this field. But even the distribution of MARC records has similarly been a process of the national centres themselves gaining experience in this activity as well as of learning which features of the record and of the services are the greatest significance to libraries. It is clear that there has been a period during which the majority of libraries have lacked confidence in the MARC services and have therefore lacked confidence in the whole operation of using MARC input for their processes. For the concept of distribution of records from national centres, directly or indirectly, to libraries forms a necessary basis to the operation of MARC input, even if libraries have to supplement this distributed input by creating their own records for a certain part of their collections or acquisitions.

The success of operating library processes with MARC input is only now becoming apparent in those libraries that have committed their processes in this way. It is significant that these operations are now proving successful, even with the limited MARC services that are available, and with an increase in the availability of records on an international scale the MARC services would provide a greatly improved base for carrying out library processes with MARC records.

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The initiative for future development is in the hands of librarians. It is they who must give guidance to national centres on the information of all kinds that libraries need in machine-readable records and on the ways in which they need to handle this information. It is also for librarians to give assistance to national centres to enable them to reach international agreement on the exchange of records between nations.

Moreover, it is only through gaining experience in the use of MARC input that librarians can put themselves into the position where they are able to provide this guidance and assistance towards a development that will benefit the library world as a whole.

48