Universal bibliographical control (UBC)

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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. The various Problems art set forth and possible solutions proposed.

The bibliographical control of world book production is a major problem which is seldom satisfactorily solved with regard to scope, content and speed. A further and still more complex task which has so far been inadequately carried out is that of utilizing the available data on book production for library purposes.It can be seen as one of IFLA's tasks to treat international bibliographical . control as a single process extending from the printing of the books to their cataloguing in libraries. This has not as yet occurred. Many attempts have been made to rationalize the flow of bibliographical data in particular fields but none of these efforts has represented more than a partial approach to the problem. They should now be combined in order that their effect on one another may be determined and the elements still lacking for a useful exchange of data formulated in a single over-all concept.The guiding principle for UBG should be as follows: the information on a book should be produced as completely and correctly as possible at the earliest possible date. In the interests of speed, accuracy and simplicity this should be done in the country of origin by the national bibliographies. The data should be made available in machine-readable form. (1) This guiding principle should be contrasted to the other possibility, that of cataloguing books of different national origin in one place and offering this information in machine-readable form. The latter method is certainly of great ; value for an individual country, but cannot be regarded as the best procedure for world-wide exchange of bibliographical data, as it would mean a delay for a third country wishing to obtain the data; moreover this method must always involve the use of certain criteria for selection.If UBC is regarded as the systematic handling of bibliographical data from the time a book is printed anywhere in the world until its cataloguing by libraries in many places, the task of making this systematic flow of information rational, efficient and flexible will entail solving a series of questions and problems, putting in hand a number of research, co-operation and standardization projects and completing existing projects.Three important groups of problems must be considered. First of all there are questions relating to the sources of bibliographical data. These are linked to questions of standardization, which is essential for any exchange of information. Finally, certain problems of organization must be taken into account in order to ensure a speedy flow of data.The following points are of different degrees of importance. In some instances a study will be necessary, in others lengthy negotiations between various interested parties will be called for. In certain areas it can only be a matter of advising or aiding the responsible authorities. This will become self-evident from the individual points. The steps to be taken in the framework of UBC need not follow the sequence of the points listed below.

Questions relating to the sources of bibliographical data

Scope and contents of existing national bibliographies

Librarians are uncertain of the extent to which literature is listed in the current national bibliographies, or what can be regarded as their equivalents (e.g. in the United States of America and the Netherlands). In many countries the number of books currently recorded remains considerably below the total number of new publications. The unrecorded material consists primarily but not exclusively of literature not made available through booksellers (reports of scientific institutions and societies, official publications, publications of political partiesand trade unions, churches, etc.).An investigation of this question would be necessary in order to obtain a general idea of the percentage of literature recorded in national bibliographies and also of course to obtain an insight into the nature and quality of unrecorded literature.

Legal requirements governing the recording of literature in national bibliographies

As the listing of publications in national bibliographies is based on very different legal requirements these must of course be considered in the investigation mentioned apove, or else studied separately.

Demand for the most complete possible listing of literature in existing national bibliographies

The appropriate conclusions should be drawn from the findings of the two studies already mentioned. This will mean that certain literature, e.g. official publications, not now recorded in some national bibliographies should be listed. For this purpose recommendations should be worked out to be submitted to those responsible for national bibliographies.

Steps to speed up the listing of publications in national bibliographies

Completeness in the recording of publications is not sufficient in itself if the listing is carried out very slowly and with years of delay as in known to, occur in various countries. In this case the only profitable course is likely to be combined representations, on behalf of all libraries, to the relevant authorities of the national bibliographies. In certain countries the attempt might possibly be made to give financial support over a certain period. This would naturally require careful prior investigation..

Creation of national bibliographies in developing countries

Not all countries issue national bibliographies. A recent study of African national bibliographies states that the book production of thirty-two African countries is currently recorded. There are, however, fifty-six countries in Africa. This means that the book production of twentyfour African States is not recorded regularly. But even the recording of books in the remaining thirty-two countries is far from satisfactory. It emerges that independent national bibliographies appear only in ten countries (South Africa, Rhodesia, Madagascar, Malawi, Ethiopia, Nigeria, Ghana, Sierra Leone, Morocco and Algeria). In six further countries a current record of book production does not appear in independent form but in the periodicals of geographical and historical societies, in annual official reports and in library acquisition lists. In addition there arc the biblio-graphies of the European mother countries and finally the well-known acquisition lists of the Library of Congress.(2)It would be necessary to discover how many countries in other continents find themselves in a similar situation. It will certainly emerge that a high percen-tage of countries has. no record of publications which could be described as a national bibliography.It is obvious that this is a starting-point for world-wide assistance in the establishment of appropriate institutions in many countries. The development of national bibliographies will be determined by different conditions from country to country. It may be that certain existing libraries can be expanded into national libraries. In other cases work will have to start from scratch.As a first step it would be necessary to take stock of the conditions existing in each country which deserves support in this respect and work out concrete recommendations accordingly. The second step would be to draw up a financial plan and extend whatever help proved necessary.

Pre-publication cataloguing

For years consideration has been given and efforts directed towards providing the book at the date of publication with its bibliographical description. This would not make national bibliographies superfluous as these are indispensable for the libraries' acquisition departments, but would appreciably facilitate and accelerate cataloguing in individual libraries. It would also doubtless have the advantage of speeding up the editing of national bibliographies. So far attempts in this field have met with considerable difficulties but this should not be a reason for discouragement. The Council on Library Resources, Washington, has already initiated a study in this direction.(3) If the results of this investigation prove promising new efforts should be undertaken.

Problems of standardization to achieve compatibility of bibliographical data

Not only must bibliographical information be made available in the. national bibliographies as completely and quickly as possible; in order that the exchange of information may proceed smoothly, it is also necessary that the relevant data should be standardized to the greatest possible extent. Three levels of standard-ization should be considered: (a) technical standardization, which plays a part in the exchange of data through magnetic tapes or related media; (b) organization of bibliographical data on data carriers; (c) standardization of catalog-uing and subject analysis.The first two fields are new and as technology is familiar with standardization it is here that maximum co-operation can be expected. It is in respect of catalog-uing and subject analysis, however, that most has still to be done and we are dealing with an area where the influence of centuries-old traditions and cultural and national differences can be felt.

Technical standardization including the demands made by librarians on technology and programming

Technical standardization, in so far as it can be applied in libraries, has several aspects which in respect of hardware, present no insuperable difficulties for the exchange of bibliographical information. In the field of software, however, that is to say the programmes which instruct the computer, a great deal of joint work will have to be done. It is true that an exchange of bibliographical information is always feasible when the data arc structured in a uniform fashion, but a certain degree of standardization should also be achieved in the field of programming. Certainly such programmes, even when they are applications-oriented, are still dependent on the type of computer. Nevertheless they have many things in common.A problem is that the manufacturers themselves offer applications-oriented or problem-oriented programmes. Even when intended for use in libraries, these programmes are often unsuitable for the purpose librarians having failed to specify their requirements in this respect.(4)On the other hand dozens of libraries produce their own programmes. An International exchange of experience is still largely lacking in this field. Such an exchange could also lead to standardized programmes. It would of course be unrealistic to believe that this could be done down to the last detail since both applications and available computers differ too greatly, but the logic and struc-tures of complete programme packages could certainly be standardized.

Organization of bibliographical information on data carriers

Although much time could be saved for individual libraries through standardiza-tion of programmes, this is not absolutely necessary for the exchange of data. Absolutely essential on the other hand is the standardized structuring of bibliographical data for any exchange of data. Therefore these questions were given attention very soon after the introduction of electronic data processing in libraries. It would be superfluous to enumerate all the efforts made in this field. Let us mention only the MARC II-Format as an instance of all these efforts. In June 1971 a meeting of experts was held in Berlin to discuss a series of specific questions of data organization on magnetic tapes. However, additional efforts will have to be made before the point is reached where certain data structures become gen-

erally accepted internationally.In future, further problems will have to be examined in order to discover the optimal data structure for universal application both for the production of alphabetical catalogues and for reproduction on magnetic tapes as well as on other technical media.All these problems are so obvious today that there is no point in going into greater detail here. Nevertheless much still has to be done in order to achieve a satisfactory degree of standardization. Without standardization in regard to the organization of bibliographical information on machine data carriers a rational exchange of data is not possible.

Standardization of cataloguing rules

As has been said, it was in this field that the earliest attempts were made to achieve international co-ordination. Much remains to be done, however, because of the burden of old and diverse traditions leading to vast catalogues, and also because of the complexity of the material. Nevertheless IFLA can pride itself on considerable achievements in the field of international co-ordination of cataloguing. One need only think of the International Conference on Cataloguing Principles, held in Paris in 1961, and the International Meeting of Cataloguing Experts (Copenhagen, 1969;, which sought to harmonize the interpretations placed on the recommendations adopted in Paris. These meetings, however, cannot be regarded as the end but only as the beginning of a long development The results of the Copenhagen conference are set down in a new commentary to the Statement, of Principles, drawn up under the direction of Eva Verona of Zagreb, which will appear in 1971., This commentary reflects the international mood of the Copenhagen meeting and its determination to arrive at acceptable norms. It also examines developments since 1961 in the field of alphabetical cataloguing, with about twenty cataloguing codes newly evolved or in process of evolution. The conclusion reached is that, even given strict international interpretation of the Paris recommendations, many important problems are still unsolved which were not tackled in Paris or were dealt with in insufficient detail. This particularly concerns two problems: main entry and heading for corporate bodies.Since complete agreement on technical matters and the most sophisticated data structure are of Httle use if the same book is catalogued under different heading in different libraries, much attention must still be given to cataloguing problems. •This means that further recommendations will have to be elaborated to supple-ment the Paris recommendations and also to modify them in some points. In addition, ways must be found of actually applying these recommendations—which must be very detailed in order to achieve true uniformity—in the different countries' library catalogues. This raises the question of how it will be possible to convert catalogues according to the new rules and what assistance can be expected for the purpose. The magnitude of this problem cannot be over-estimated and these are certainly matters of long-term planning. But with the help of electronic data processing much will become possible which could not be achieved by conventional methods.As a first step towards further standardization of cataloguing rules it will be necessary to take stock of the present situation. In other words the findings of Mrs. Verona's commentary to the Statement of Principles will have to be supplemented by more thorough and detailed investigations. Statistical surveys must be undertaken to find out the nature and extent of variations in bibliographical descriptions catalogued according to different rules. A first investigation of this kind will begin in the Federal Republic of Germany this year with the support of the Deutsche Forschungsgemeinschaft. Several thousand Library of Congress I entries made in accordance with the Anglo-American Cataloguing -Rules will be compared to the corresponding entries made according to the, new German rules. The Library of Congress could also contribute its experience with entries from other countries.(5)It will be necessary to carry out a whole series of these surveys which will examine not only the nature of the differences but also the frequency with which they occur. Their findings will indicate what further action is necessary.

Standard bibliographical description (SDD)

A special problem of alphabetical cataloguing is the form of entries. An attempt at standardization has already begun. Michael Gorman presented a study carried out with the support of Unesco and IFLA to the International Meeting of Cataloguing Experts where it was discussed. This was a first

step. An improved form of SBD presented to the thirty-sixth IFLA session in Moscow has not achieved its final shape but will have to be developed still further. Certainly standardization of the formal aspect of bibliographical data is of fundamental importance for data structure on magnetic tape and is particularly necessary so long as it has not been possible to reach complete agreement on the more basic entry questions.

List of uniform headings

Even if the same cataloguing rules are applied the same titles and names can be entered in different ways. First attempts have been made with the support of IFLA to standardize the entries for anonymous classics, names of States and principal corporate bodies. The first findings will be available shortly.(6) But they too can only be regarded as a beginning and should be expanded and developed.

ISBN, ISSN and the libraries

Though International Standard Book Numbers can play a considerable part in rationalizing universal bibliographical control, the system of numbering was developed to meet the needs of the book trade. For library purposes it has considerable short-comings as even a different binding for the same edition will result in a different book number. Different editions of a work cannot be brought together at all under this system. There again an attempt should be made to improve the system from the point of view of library use, while respecting the interests of the book trade.

Standardization of subject analysis

The exchange of bibliographical information is primarily concerned with alphabetical cataloguing, but need not be restricted to it. The Library of Congress printed cards provide in addition to the main heading the Library of Congress classification number and the Dewey Decimal Classification as well as keywords. I Through electronic data processing the exchange of this kind of information can certainly be extended. This demands a standardization of subject-analysis procedures, but this itself is a large and hitherto unsurveyed field. There is of course the internationally accepted Brussels decimal classification (UDC) but there are also a large number of other universal and special classification systems which make the exchange of data difficult or as yet impossible. Here too there is an urgent need for international co-operation. The possibilities offered by electronic data processing will lead to a reappraisal of present methods of subject analysis and also, it is to be hoped, to the discovery of standardized methods. Modern subject analysis with electronic data processing will differ substantially from the old systematic catalogues as well as from the alphabetical subject catalogues. To proceed in many different directions would denote a criminal failure to seize the present opportunity on inter-library exchange in this vital field of data analysis and dissemination—though naturally the first step must be to get a clear picture of aims and possibilities.

Problems of organization

Important though it is to have available the information on recent publications as comprehensively and quickly as possible, and to standardize this information, ever-increasing importance will in future attach to the question of by what means the flood of new bibliographical data can best be joined to what already exists. Electronic data processing with its new technology will be of use in this respect since it will probably make it possible to overcome the limitations of conventional methods of central cataloguing, i.e. distribution of catalogue cards.(7) The channels of information should be easy and manageable, which is to say that the data should be produced in machine-readable form as quickly as possible and made available to the interested libraries through efficient distribution centres. The system should accordingly be based on national bibliographies and consideration should also be given to the establishment of national or regional distribution centres. Finally there is the problem of establishing data banks for older literature and the distribution of the

data stored in them. These are the three remaining problems.

The establishment of machine-readable national bibliographies in countries in which they do not yet exist

The prerequisite for a world-wide and easy exchange of bibliographical information is the conversion into machine-readable form of as many national bibliographics as possible, especially the most important, so that the bibliographical data can be bought on magnetic tapes. It should be feasible to utilize the experience gained in this field in Frankfurt, London and Washington for the benefit of other national bibliographies though presumably this intellectual assistance will have to be supplemented by technical and financial aid.

The establishment of regional cenires for revision and distribution of machine-readable bibliographical data from other countries

For two reasons it does not seem desirable that each individual library should obtain from all national libraries magnetic tapes with all the available titles. For some time to come, in spite of all the efforts, the cataloguing rules of the various countries will still differ. This means that catalogue entries will have to be revised. It is not efficient for many libraries in a country to carry out the same revisions again and again. Regional centres could undertake this work for a number of libraries and issue the revised entries on new magnetic tapes.(8)The other reason is the vast amount of bibliographical information available in the national bibliographies. It is too time-consuming and thus too expensive for even an electronic data-processing device to select individual entries from magnetic tapes containing many entries. This could also be undertaken by a single centre for a number of libraries. There the requested entries, possibly accompanied by Standard Book Numbers, could be compiled and distributed on magnetic tape. Modern technical devices such as random access to the entries could probably be employed.The establishment of such distribution centres will only be advantageous when a large number of national bibliographies is in fact available on tape. This may occur sooner than is expected. At that point a centre of this kind should be set up for experimental purposes in order to gain experience of what are after all novel methods of handling and controlling bibliographical information.

The establishment of data banks for older entries

In the long run the need will increasingly be felt to use electronic data processing for the older entries of books of long-established libraries as well. If an old library catalogues new titles by electronic data processing it will be working pardy with modern technical devices and pardy with conventional cataloguing methods. It will become increasingly necessary to make the older stock accessible to a more flexible method of cataloguing. This is a task of enormous dimensions and any prospect of success depends on the united efforts of the libraries. It would be folly for each library to go its own way. In other words data banks of older titles will have to be established joindy from which each library that so desires can obtain data.The Library of Congress has already given consideration to this matter and initiated a project for the conversion of a large number of old entries under the name of the RECON (REtrospective CONversion) Pilot Project. (9) The aim of die project is important: as many tides as possible are to be recorded and their bibliographical description is to be as precise and complete as possible. Only under such circumstances arc data banks desirable.Projects like RECON should be promoted. One could consider taking over comprehensive bibliographies or die catalogues of large libraries. It seems important diat such major projects should be co-ordinated at the appropriate moment for die purpose of establishing a data bank, die structure of which would-have to be worked out in detail.

Conclusion

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 formed 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. It is obvious diat very many practical steps will have to be taken in order to realize the ideas expressed here.

1. This is in accordance with a recommendation addressed to IFLA by the International Meeting of Cataloguing Expert held at Copenhagen in 1969 (cf. Libri, vol. 20, 1970, p. 115-16), and the Unesco Seminar on Electronic Data Processing in Libraries, held at Regensburg in April 1970 (cf. Libri, ... (to appear in 1971).

2. Ernst Kohl, 'Laufende afrikanische Nationalbibliognphien', Zeittchrjft fir Bibliothtksweien und

Bibtiographie, vol. 17, 197O, p. 355-67-2.

3. cf. IFLA, thirty-sixth leuion, September, 1970. Memorandum from the Executive Board to the Consullative Committee on a program J or future action, p. 10.

4.Christine Bootmeyer. "Problemorientiene software'. Paper read at the Unesco Seminar on Electronic Data Processing in Libraries. Libri...

5.Herman Liebaers, 'Shared cataloguing', Unesco bulletin Jor libraritt, vol. XXIV, 1970, p. 62-72 and 126-38.

6. I. Roger Pierrot, International list of uniform headings for anonymous classics; Suzanne Honore\ International list of approved forms for catalogue entries for the names of States; List of uniform headings of principal corporate bodies existing in different countries and of important international organizations. Compiled by the Cataloguing Commission of the U.S.S.R.

7.Franz Georg Kaltwasser, 'Der Nutzen des wiederholbaren Zugriffs tu elektro-magnetisch gespei-cherten, bibliographischen Informationen'. Paper read at the Unesco Seminar on Electronic Data Processing in Libraries. L ibri...

8.R. E. Coward, 'MARC international. Lecture notes for the Regensburg Seminar'. Paper read at the Unesco Seminar on Electronic Data Processing in Libraries. I ibri...

9.Conversion of retrospective catalogue records to machine-readable foim. A study of the feasibility of a national bibliographic service, Washington, D. C, 1969; Henriette D. Avram, 'The RECON Pilot Project: a progress report', Journal of library automation, vol. 3, 1970, p. 102-14.