RETROSPECTIVE CONVERSION AND RETROSPECTIVE CATALOGING WITH SPECIAL REFERENCE TO EXPERIENCE OF THE UNIVERSITY LIBRARY "SVETOZAR MARKOVIĆ" IN BELGRADE

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Introduction

A great deal of significant national and special collections in libraries, as well as cultural legacy of particular nation would remain hidden from potential users unless respective data were converted to electronic form or made accessible through the Internet. It is necessary to process such special collections, archival materials, old and rare books and include them accessible on-line. Development of IT society and science development compels the requirement of end users for accessibility to all important research subjects, wherever they are seated whether in the office, the library or at home.

The first prerequisite in creating "virtual" libraries is creating automated catalogue of entire holding. Existence of unique automated catalogue enables easier revision and usage of publications, representing the only adequate way of keeping and protecting library holdings. Also it might ensuer faster and easy lending of publications and interlibrary exchange. The aim of each library is to convert data on its holdings into electronic catalogue accessible for all, although it might often be the matter of converting individual collections.

The Project of Retrospective Conversion implies importing card and printed library catalogues into electronic databases and end-users access through the Internet. Almost all national and university libraries in the world completed this task by the end of the last century.

It is necessary to make a distinction between:
1. Retrospective conversion and
2. Retrospective cataloguing.

Retrospective conversion is converting data from card and printed catalogues into machine readable form. This is principally accomplished by OCR (Optical character recognition) involving scanning of card catalogue records (most commonly coloured) and their conversion into machine readable form (UNIMARC, MARC21...) followed by immediate quality control.

Some of the first libraries to use this form of retrospective conversion were:

a) Heidelberg University Library – (Universitätsbibliothek Heidelberg http://www.ub.uni-heidelberg.de/Digikat), the first to test retrospective conversion 1986-1987.

b) Austrian National Library (Österreichische Nationalbibliothek http://www.onb.ac.at)

c) Birmingham University Library (http://cardcat.bham.ac.uk/main).[1]

Creation of records by retrospective conversion is a fairly expensive task and it is estimated to account for 5 to 25$US per record.

Retrospective cataloguing is the cataloguing or re-cataloguing and used to refer to quality altering of cataloguing description implying *de visu* method, upgrading and completing catalogue description with the item seen by the cataloguer. It often follows retrospective conversion in instances where there is insufficient data on the cards for identifying a publication, and is generally used for cutting conversion costs.

When retrospective conversion process or retrospective cataloguing are needed it has become a common practice to create individual projects for serial and for monographic publications. They are comprehensive projects requiring significant financial assistance; therefore it is necessary to ensure their national character and to have them supported by appropriate Ministries and Government. In order to conduct retrospective conversion, in general, it is necessary to meet a minimum standard of recording requirements in compliance with national and international rules for bibliographic description. This concerns both form and contents processing.

EUROPEAN LIBRARIES
Czech Republic
The Retrospective Conversion Project in Czech Republic was supported by Ministry of Culture with the participation of 9 large scientific libraries, each covering particular catalogue area. National library (Národní knihovna České republiky – http://www.nkp.cz/_en/index.php3) converted 435.000 catalogue items in the period from 1996-1999. Recordings of all 9 libraries were included in CASLIN (Czech shared catalogue) and they are accessible through OCLC.[2] On-line accessibility of these records considerably facilitates and reduces costs of retrospective conversion in smaller libraries.

Hungary
Hungarian Conversion Project, as the main resource, used major national inventory catalogue of Sechenyi National Library (Országos Széchényi Könyvtár – http://www.oszk.hu/index_en.htm) and therefore imported 400.000 catalogue items into the electronic catalogue. This Project was financially assisted by the Government, i.e. Hungarian Ministry of Telecommunication and Communication within National Digital Data Archive Project.[3]

Germany
The Retrospective Conversion Project was conducted on three levels:

1. National (national and university libraries – for example Tubingen University Library – Universitätsbibliothek Tübingen – http://www.ub.uni-tuebingen.de/eindex.html)

The Retrospective Conversion Project started in 1993. Catalogue items were scanned and automatically formatted, with 90% success in converting records, while the rest was corrected manually. Catalogue records on several items, as well as records in non-European languages were not converted due to financial reasons: it was not cost-efficient.

2. Regional (selected libraries and important collections)

3. Local (some significant libraries – for example Freiberg University Library – Universitätsbibliothek Freiburg – http://www.ub.uni-freiburg.de/ and German National Library in Frankfurt – Deutsche Bibliothek Frankfurt am Main – http://www.ddb.de/ – although of local character, the Projects were recognized as being of national values).

All projects were financially assisted by the Government.[1]

France
The retrospective conversion has been carried out in National Library of France (Bibliothèque nationale de France - http://www.bnf.fr) since late 1995 through a JOUVE Project. CD-ROMs with digitized contents have been issued twice a year. Four million records have been converted by now. Conversion included approximately 90 different catalogues, manually scripted, printed and typed, as well as 900.000 recordings in 20 largest public libraries. Team of 80 experts therefore converted 155.000 records for monographic publications in 1995.

Great Britain
The retrospective conversion and retrospective cataloguing are conceived as shared national

project for libraries, archives and museums. The starting point for establishing criteria in such comprehensive projects was the necessity to have the most prominent collections and national authors kept in focus, also regarding minor, but valuable collections of local libraries. A prerequisite for successful conversion was interconnecting of BL (British Library – http://www.bl.uk), CURL (Consortium of University Research Libraries), COPAC (http://copac.ac.uk – union catalogue of CURL member institutions – British Library, the National Library of Scotland, and the national Library of Wales / Llyfrgell Genedlaethol Cymry including some small number of non-CURL libraries) with electronic catalogues and V3.Online (public libraries catalogue) as well as cost-free records exchange and services of available database wherever possible. The conversion would be conducted in two phases. The first one would include all printed material, and the second one, for manuscripts and special collections. The Project has been relying on two reports made by Phillip Bryant and published in 1997, saying that there are approximately 50 millions of non-converted records whose costs would account for 80 to 100 million pounds. In May 1999 the British Library organized conference with participation of 140 attendants who reached the conclusion that it would be possible to convert approximately 80% of records in further 10 years. Bryant considers a period of 20 years as more realistic.

LIBRARIES IN THE REGION
Slovenia
The Project of Retrospective Conversion started in 1996 with the assistance of the Ministry of Culture and Open Society` Regional Library Program. The first phase in NUK (Narodna in univerzitetna knjižnica – www.nuk.uni-lj.si) included coloured scanning of catalogue records for the period of 1774 – 1947 and their conversion into machine readable form – by MARC by OCR software (65.000 items – items of the old catalogue by 1900 were in handwriting, and later typed on typewriter).[4] The problems dealt with bad paper quality, insufficient character reading, non Latin scripts and additional characters. 17.000 records were downloaded from the Hand Press Books Library database founded by CERL (Consortium of European Research Libraries). The second phase included converting catalogue records for the period of 1948-1988. It was planned to have 350.000 records after retro conversion. All records were included in COBISS.SI.[4,5]

Croatia
In Croatia, card catalogues of two libraries have been digitized – historical catalogue Bibliotheca Civica in Rijeka University Library (http://www.svkri.hr), and alphabetical catalogue of National and University Library (NSK – http://www.nsk.hr) in Zagreb. The Project of Retrospective Catalogue Conversion has lasted, with minor interruption, for 15 years and passed several phases. The first pilot project lasted in period of 1991-1994. Approximately 55.000 records from Croatian history were downloaded. The second phase started in 1996 and included retrospective cataloguing of Croatian books from XVI century, as well as retrospective conversion of Croatian Latinist Šime Jurić bibliography (approximately 6.000 units – the most of them required also retrospective cataloguing). The following phase started in 2001 by retrospective conversion of NSK repository catalogue for entire library holdings. It was completed in 2006 by converting approximately 30.000 catalogue items. Next phase included retrospective converting of alphabetical NSK catalogue into digitized catalogue. This project began in 2004 and catalogues by 1975 and from 1976 to 1990 were digitized. Approximately 1.000.000 catalogue records were scanned. A further phase will include scanning catalogue records into an electronic catalogue following the use of OCR software.[6]

Libraries in Serbia

The Shared catalogue of Virtual Library of Serbia was established by late February in 2003. The foundation of the Catalogue included records from local databases:

– Matica Srpska Library (approximately 750.000 records)

– National Library of Serbia (approximately 430.000 records)

– Yugoslav Bibliographic Institute (approximately 390.000 records)

– University Library "Svetozar Marković" (approximately 98.000 records).

Creating the shared catalogue is of huge significance also from the aspect of the retrospective cataloguing for the great deal of small libraries in Serbia (especially public libraries), since they may import the most of their library holdings into electronic catalogue by downloading records from shared union catalogue. Besides COBISS.SR database, since late 2004 all participants in the system have access also to the COBISS.NET database records (shared library database within COBISS system from Slovenia, Serbia, Bosnia and Herzegovina, Montenegro and soon Bulgaria).[7]

National Library of Serbia

The National Library of Serbia (http://www.nbs.bg.ac.yu) has in its holdings approximately 5 million documents. Therefore its Project of Retrospective Conversion is large and comprehensive due to the necessity of making approximately 1.5 million records. The Project was planned to take place from 2002-2004 through several phases. Preparatory phase considered assembling team of experts to be engaged on this Project, checking up the state of catalogues, getting acquainted with foreign experiences in retrospective conversion, creating software that could be used in other libraries… In the first phase it was planned to create a catalogue using scanned images by scanning catalogue items. The second phase should include processing of images from printed catalogue im-

ported into text form using FineReader software for OCR, managing completed UNIMARC records and their importing to COBISS database (350.000 records). The third phase foresaw the image catalogue would be imported into a COBISS database (50.000 records). The fourth phase would deal with importing foreign book card catalogues to COBISS database (300.000 titles), and the fifth, importing of remaining card catalogue records to COBISS database (250.000 titles).[8]

Up to now, the only scanning of printed catalogue in languages of Yugoslav nationalities was undertaken in 14 volumes for the period of 1868-1972 (350.000 records) as well as creating of software for data import to electronic catalogue. The next step is the standard control of current records and their incorporation into COBISS database. Retrospective cataloguing for period of 1972-1989 is carried out by 3 librarians by *de visu* principle, currently accounting for 80% of imported library holdings. Retrospective cataloguing for foreign books has not been done yet. It is the matter of financial and organizational character due to the lack of competent staff that could be engaged in this project.

Matica Srpska Library

Importing into a local database the retrospective data holdings in this library (http://www.bms.ns.ac.yu) was undertaken by the means of retrospective cataloguing. The work was conducted in two ways: with a book in hand (during 1999-2003, accounting for 63.525 publications records) and by manual data copying from catalogue cards (in 90s with participation of all members of staff processing 20 records each, daily). Up to this moment there have been approximately 522.000 publications processed.[9] Records of old and rare books are stored in a local database and other libraries may not download them. This Library is an example of a library which completed importing of entire library holdings in electronic catalogue due to exquisite organization and good IT support.

University Library "Svetozar Marković"

University Library (http://www.unilib.bg.ac.yu), as one of the largest research libraries on Balkans, provides information for scientists and faculty staff, and accordingly entire academic population – students, university teachers and researchers. Holding of the Library includes scientific and specialized papers, predominantly in foreign languages (mostly in English, part in German and French language). The University Library is, by virtue of its domain, master library for all academic libraries in Serbia and depository for master (M.A. and M.S) and doctoral (PhD) dissertations. The Project of Retrospective Cataloguing is therefore a very specific project due to all these reasons.

The Project was conducted on three levels:

1. Retrospective cataloguing of doctoral dissertations

2. Retrospective cataloguing of frequently used holdings

3. Retrospective cataloguing of K and K_1 call numbers (literature in Serbian language).

Retrospective cataloguing of doctoral dissertations

It started in December 2002 and ended at the end of 2005. Importing was done by copying catalogue cards from the subject catalogue. That is why designation 1 was entered in the field 001$g of COMARC/B format – sublevel 1 (data downloaded from card catalogue). The beginning of the Project was preceded by training of library assistants. There were 6 library assistants from Processing Department engaged on recording activities, and their work was supervised by a librarian. For the library assistants it was full-time work, and the librarian did this job beside his regular daily responsibilities. Control and update of records for the period 1989-2001 that already existed in local database, was also completed. Total number of imported records is 12.761. Out of them, 8.081 were records concerning Ph. D. dissertations defended at the University of Belgrade

(records for these dissertations are locally designated by **disserb**).[10] Retrospectively catalogued dissertations have been completely catalogued by subject and UDC in area of biomedical science, and partially in areas of natural and technical science. Dissertations in other areas were not substantively processed due to insufficient number of qualified staff who would be able to participate in this Project, beside their daily responsibilities. In the course of work, there were problems, because some old catalogue records were in hand writing, therefore insufficiently legible, and often with only little information. Due to these reasons, some cases required *de visu* method. Double checked list created by faculties and by years of submitting was chronologically edited and may be found on library website http://www.unilib.bg.ac.yu/projekti/disertacije_2/fakulteti/index.php.

Table 1 – Number of retrospectively imported records for doctorial dissertation in ULSM database

Year	Disserb	Other dissertations	Total
1989-2001.	604	1.751	2.355
2002.	406	220	626
2003.	1.920	719	2.639
2004.	4.830	1.974	6.804
2005.	320	16	336
2006.	1		1
Totals	8.081	4.680	12.761

Retrospective cataloguing of frequently used collection

This Project has been ongoing since January 2003 due to the fact that automated book lending was initialized on 8th January 2003 in University Library, having been the first of the kind in COBISS. SR system. The focus was put on the necessity to process, firstly, publications taken, i.e. returned by users, in order to enable automated book lending. In the beginning of the Project there were two librarians from the Circulation Department engaged on *de visu* processing of returned publications. Upon establishing a shared database (late

February in 2003) the Circulation Department was active on downloading records, and Processing Department on creating records for publications missing from shared catalogue, mostly for publications in foreign languages. This was a priority job of the Processing Department and it was done in the course of daily routine, without engaging additional qualified staff. Created records were entirely processed in form and by contents and hereby made searchable by all parameters. Difficulties in the course of work were caused by publications printed in Gothic lettering, in less known and non-European languages, publications requiring initial resolutions, damaged samples (for example missing front page, impressum and similar).

In the period from 2003 to May 2007 there were approximately 17.000 records downloaded, and 6.500 records created.[10] Publications of frequently used collection in social science are the most prevailing – some 50%, in humanities – approximately 30%, while natural, technical and biomedical sciences accounted for 20%, whereas the national and international book ratio was fairly balanced. Experience proved more often lending of publications from frequently used collection recorded in electronic catalogue then ever before. The reason for that may be found in the fact that younger users, especially students, browse electronic rather than card catalogue.

Enclosed table presents that the number of downloaded records in 2006 is halved comparing to the previous years due to reorganization of responsibilities (this position is now occupied by one instead of two librarians).

Table 2 – Preview of retrospective cataloguing of frequently used collection in ULSM database

Year	Created records	Downloaded records	Total
2003.	2.816	4.607	7.423
2004.	1.006	4.603	5.609
2005.	1.221	4.850	6.071
2006.	836	1.970	2.806
2007 (by May)	602	502	1.104
Total	6.481	16.532	23.013

Retrospective cataloguing of К and К₁ signatures

Since K and K_1 signatures designate literature in Serbian language, this group out of 5.745 publications, was considered as the most convenient for initialization of entire non – frequently used collection retrospective cataloguing. It was presumed that records for these publications were the most commonly represented in shared database and that they are the most simple for processing because they do not require additional processing of contents. This Project started in 2006. Four library assistants and one librarian were included in it, supervising students' and faculty reading rooms. The Project was preceded by training - colleagues attending Beginning Course COBISS2/Cataloguing and got licenses for shared database. Records for these publications have been downloaded from shared catalogue, resulting in downloading of approximately 4.000 records.[10] Call numbers are foreseen to be completed by the end of 2007. Recording of old part of holdings in Serbian language, designated by literal call numbers was also considered in terms of continuing the Project. The final decision on further actions in retrospective cataloguing of non – frequently used collection will be made upon completion of working with K and K_1 signatures.

Table 3 – Preview of Retrospective Cataloguing of not frequently used holding in ULSM database

Year	Downloaded records
2006.	2.275
2007. (by May)	1.600
Total	3.875

There is a lot of work to be done on retrospective cataloguing at the University Library. Monographic holdings account for 800.000 publications out of 1.500.000 bibliographic units, whereas approximately 20% was converted in electronic catalogue until now. The Library holdings include also 28 special libraries among

which are 26 whose cataloguing records are not included into electronic catalogue. Some publications stored in rare collection are very valuable (old and rare books, 90 Cyrillic, 397 oriental manuscripts, archival materials – 4.000 letters and 22.000 pages in hand writing, maps and engravings of old city of Belgrade…) and they should also be included in electronic catalogue, although this part of holdings was foreseen to be digitalized. For realization of this it is necessary to engage large financial and human resources, to create accurate organizational plans, and to be supported by competent Ministry or Government, as well by contributions of individual donators.

Conclusion

Advantages of retrospective cataloguing lay in the fact that publications are being processed *de visu*, therefore ensuring accuracy, data integrity and profound bibliographic description. On the other hand, retrospective cataloguing accelerates process of holdings recording, but with greater possibility for deviating data accuracy. Also retrospective cataloguing and retrospective conversion require large financial resources and professionally qualified library personnel.

Retrospective cataloguing may not be seen only from technical or financial aspect, but it has to be viewed in its future environmental context. Records made by retrospective cataloguing or conversion have to fit in shared catalogue and to comply entirely with international bibliographic standards.

Further projects have to be carefully planed because this job primarily requires engagement of expert teams, well organization, large financial resources and assistance on national level or, at least, support of competent Ministry.