

**Lýdia Sedláčková and Alojz Androvič,
The Slovak Union Catalog for Serials**

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Union Catalogs at the Crossroad

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Andrew Lass and Richard E. Quandt

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Chapter 10

The Slovak Union Catalog for Serials

Lýdia Sedláčková and Alojz Androvič

In practical terms the union catalog is far from
obsolete [...]¹

The free flow of information and knowledge is a basic prerequisite for the development of modern societies, and is exemplified by a united Europe and other advanced societies around the world. The coordinated creation of and access to library catalogs, relying on modern technology, make significant contributions to those societies' development. Long-term practice supports the belief that one of the most effective instruments for promoting the free flow of knowledge is the union catalog and the best method for creating it is cooperative cataloging, which is labor-saving and contributes to the quality and speed of cataloging.

A national union catalog is the fundamental information resource for documents in the libraries of a country. One of its important functions is its ability to locate information. In addition to its cataloging functions, it standardizes and stores information and provides opportunities of cooperation and coordination. The union catalog contains the holdings of the participating libraries as well as the national document production. It reflects the culture and cultural heritage of the country in question. Universal union catalogs incorporate a range of processes for registering,

¹ Clifford A. Lynch, "Building the Infrastructure of Resource Sharing: Union Catalogs, Distributed Search and Cross-Database Linkage," in *Souborné Katalogy: Organizace a Služby*, Prague: Národní knihovna, 2000: 21.

preserving and presenting information about national and international intellectual output.

New technologies have extended the scope of union catalogs by enabling the inclusion of international library materials and electronic transmission of the articles from periodicals.

The construction of a Slovak union catalog for periodicals (UCP) has been an old tradition at the University Library in Bratislava. The creation and improvement of union catalogs for periodicals and of other extended services continue to be important and hotly debated issues in many countries and regions.

1 The UCP in a Changing World

Once, the union catalog was kept on catalog cards; it² described the collection holdings of a number of libraries.

The present solutions applied in the Slovak Union Catalog of Periodicals (UCP) have not been invented ‘on the fly.’ The culture of union catalogs (UC) is deeply rooted among Slovak librarians, as it is in many other European countries. This familiarity with the phenomenon was certainly important insofar as it offered a foundation from which to build a new system. It meant that we were aware of the complexity of the project, of the potential pitfalls and of all that is involved in bringing such a project to successful completion. On the other hand, this past history could also become a burden as it limited our ability to imagine our own goals and visualize alternative solutions.

Slovak librarians realized the significance of union catalogs as early as the 1920s.

The activities of the first director of the University Library in Bratislava (ULB), Dr. h.c. Jan Emmeler, aided scientific and cultural developments in the former Czechoslovakia. His conviction that common catalogs are fundamental preconditions for scholarship led him to the idea of creating a

² Ole Husby, “Real and Virtual Union Catalogs,” in *Souborné Katalogy: Organizace a Služby*, Prague: Národní knihovna, 2000: 112.

union catalog. In 1923, during the international library congress in Paris, he presented the first report on the preparations for the Czechoslovak union catalog. In the same year, he designed a precise specification for the technology, which is still of value. It contained practically all the necessary ingredients for a modern union catalog, including the catalog type (alphabetical, bibliographic record card catalog); the role of the major libraries and the tasks they would have to carry out, the establishment of the union catalog's central database; the unification of the card format according to the international cataloging card format accepted by the International Bibliographic Institute in Brussels (12.5 x 7.5 cm); a library identification system and recording format for location and holdings information; a proposal to establish an expert Union Catalog Committee; a data flow scheme for the whole system (including the definition of the first record for the then International Bibliographic Institute in Brussels) defining the reference and bibliographic sources for the catalog; and cataloging instructions and the proposal of an agreement on common rules for lending (the first international recommendation for building union catalogs as a precondition for ILL was approved by the international library congress in 1935!).

The catalog concept was realized in Slovakia during the period 1923–1936. A central catalog of Slovak libraries was created, containing records of the rare collections in 13 predominantly historical libraries, founded and developed since the middle of the sixteenth century. The highly professional bibliographic work on the first union catalog became the best avenue to a retrospective national bibliography. During the 14 years of collective work, the union catalog grew to 50,000 records of historically valuable books and serial documents of various provenances.

In 1947, the reputation and the results of the project attracted the attention of Dr. Besterman, a representative of UNESCO. He visited the University library and presented a proposal for cooperation on a central catalog of UNESCO countries. However, the political situation was not favorable for such a project at that time.

However, the past efforts of building a union catalog in Slovakia were not ignored even after the changes in the political system in 1948. In 1949, official bodies selected the union catalog as one of the main tasks of the national library system. ULB was entrusted with a pivotal role, and in

consequence, the state expected reasonable growth in cultural life. However, there were many other more important political priorities at that time, such as the liquidation of monastic libraries, and for this reason union catalog production was postponed until 1957. Thereafter, the creation of the central union catalog began in three major libraries in parallel.

The production of union catalogs in the country and the obligations imposed on ULB were significantly impacted by Law No. 110/1965, which pertained to cataloging foreign literature. This legislative act required libraries involved in state-wide cooperation to create union catalogs and to serve as the basic information resources for inter-library loan services, for the cooperative provision of the acquired literature and for the accompanying financial evaluation of state resources used primarily for collection building. ULB had played a central role in this activity. All Czechoslovak libraries collecting foreign literature started to build cooperatively a Czechoslovak union catalog, divided into two parts:

1. A union catalog of foreign books (produced in parallel at National Library in Prague and at ULB)
2. A union catalog of foreign periodicals (ULB).

The common Czechoslovak state-wide foreign literature union catalog was constructed by 1993 (the year in which Czechoslovakia split into two countries). The union catalog of books still has foreign (including Czech) books in its scope and has a classic card catalog. It is still being added to, and continues to be used (it currently contains 3.6 million records and has 200 contributing Slovak libraries).

The foreign periodicals union catalog has passed through several stages of development. Towards the end of the 1960s and the beginning of the 1970s, ULB and the National Information Centre in Prague (NIC Prague) developed an automated periodicals union catalog (ASKKP), at first as an offline system. ULB, as the producer of this system, was responsible for gathering data, central administration and data conversion (to magnetic tape), as well as for the typographic processing of the printed version of the catalog. ULB published and distributed the catalog for the whole of Czechoslovakia.

The UCP database was maintained and updated in Micro-CDS/ISIS. It was not the only way to save the data, but luckily it also turned out to be a

very flexible and reliable environment for continuing the work. Even today, we still have the free Micro-CDS/ISIS package, which is a useful tool for data management. NIC in Prague developed a complex technology required for processing input data, formal and logical data control, and list editing. Since 1982, it has provided online dial-up access to the union catalog database (ASKKP), together with access to the address database of contributing institutions. Access to these model Czechoslovak bibliographic databases was realized through an international network connecting Moscow, Prague and Vienna. In a 1991 survey and study of the library and information system in Czechoslovakia, the British "Know How Fund" favorably evaluated this online periodicals union catalog database. The microfiche edition of the catalog was produced in parallel with the computerized database.

During the many years of their existence (until 1996), the online periodicals catalog database and the directory database have had several different structures, used several retrieval systems (GOLEM, STAIRS/CMS, Micro-CDS/ISIS) and several servers (IBM mainframe, mini-computer, PCs). In principle, the only invariant in this varied development was the serial publication itself and the bibliographic data about it. The database contained over twenty thousand titles of foreign periodicals in more than 1,400 Slovak and Czech libraries from 1976. Until 1996, the database was updated only once a year.

In the period 1991 to 1995, the ASKKP database and the address database were also available on the Slovak academic network SANET, connected to the Internet and maintained in the STAIRS system at the Institute for Applied Information Science in Bratislava. Libraries and other users were able to copy selective outputs from the union catalog database to floppy disks for use in the local computers that were also using the UNESCO system Micro-CDS/ISIS.

2 CASLIN: A Milestone of Czech and Slovak Librarianship

The contrast between the trend toward globalization and the efforts of individual nations to maintain their national and cultural identity has increased the importance of integration, cooperation, standardization

and harmonization. In Slovakia, this contrast has raised the importance of the Czech and Slovak Library Information Network (CASLIN), founded in 1991.

Four main Czech and Slovak libraries, the Czech National Library, the Slovak National Library, the Moravian State Library in Brno and the University Library in Bratislava, agreed to create a solid foundation for a nationwide library network. Slovak participation in this network increased when the East Slovak library consortium KOLIN joined CASLIN.

The network was designed as an integrated cooperative system based on shared cataloging and the utilization of central processing of the national production of library materials. One of the main tasks was the gradual construction of a union catalog of all participating libraries. Czechoslovak union catalogs of foreign literature became the basis for this union catalog.

The standards adopted in CASLIN include

- the exchange format UNIMARC;
- international bibliographic recommendations for bibliographic description, ISBD;
- Anglo-American Cataloging Rules, AACR2;
- Universal Decimal Classification as a classification scheme.

The technology includes

- the integrated library system ALEPH;
- an Internet network environment.

The adoption of international standards and rules allows for common bibliographic descriptions and provides for a national and international record exchange system. At present, Slovak libraries use ISBD standards, AACR2, UNIMARC format, and the ISO 2709 standard for bibliographic records exchange in electronic form. The application of the above standards is obligatory for the union catalog.

In the initial project years, all participants concentrated on building their OPACs, their locally produced and maintained catalogs of monographs. The idea of the union catalog was more theoretical than practical, particularly because of weaknesses in the telecommunications infrastructure. It was also the case that the particular version of the software acquired did not lend itself easily to implementing shared cataloging. But the ULB created and

extended the UCP in accordance with all standards, rules and system procedures implemented in CASLIN. A copy of the UCP was provided to the National Library of the Czech Republic in Prague in 1991.

The first challenge was how to adapt the periodicals union catalog to the CASLIN standards, namely UNIMARC, ISBD (S) and AACR2. After the data structure comparison, we had provided several conversions and data modifications, including the specific holdings structures. Minimal and standard formats and data structures for serials and indexing were adopted. A significant change was introduced into the structure of holdings information. Finally, the Czechoslovak database was removed, thereby creating a purely Slovak pool of information.

The conversion of the UCP database into UNIMARC format and the customisation of the ALEPH system had been achieved in cooperation with the Czech National Library and since the end of 1996, the catalog had been accompanied by a complementary ADR database: (the directory of participating institutions) available via Internet.

The UCP and the participating libraries (ADR) relied on 2 parallel databases:

- a working cataloging database (micro-CDS/ISIS)
- a public user database, used for data retrieval (ALEPH 3.25).

In the cataloging database, the following functions were performed:

- cataloging of new serial titles;
- data update and correction;
- duplicate control;
- data export for local catalogs of participating institutions;
- data export for the public user database;
- export data for the German document delivery system JASON (Journal Articles);
- printout of the address directory.

The organizational and technical conditions have determined the composition of services offered to professional staff and end-users. Currently the following services are offered:

- Information retrieval in the UCP database and ADR database (the directory of participating institutions) in the WWW environment;
- Parallel searches on an experimental basis in both the Slovak UCP database and the German ILL database system JASON, which is connected to the bibliographical article database JADE. This system relies on electronic document ordering from the North Rhine-Westphalian libraries and more than 20 Slovak libraries;
- Information requests can be made by telephone or in writing (including fax and E-mail) directly to the Union Cataloging Department of the ULB, and this service is available to the end-users; and
- Every 2-3 years a printed version of the database—ADR (directory of participating institutions) is published. In 1998, the union catalog of periodicals was extended by the inclusion of the records of Slovak periodicals, and of the complementary database of the participating libraries directory, which has been available on the WWW since 1996.³

CASLIN has had a positive influence on library automation, the standardization of data processing, cooperation, library management, and practically all daily library activities. In the last decade of the past century, significant changes have occurred in library automation. Step by step, the Slovak libraries learned to organize their work according to international rules and standards.

In the Slovak Republic, responsibility for the creation of union catalogs was divided between the University Library in Bratislava, which is responsible for the union catalog of periodicals, and the Slovak National Library in Martin, which is the administrator of the union catalog of monographs. This structure was approved by the CASLIN project directors in 1995, and was adopted by the then new Slovak library law No.183/2000.

³ See <http://www.ulib.sk>.

3 New Directions

The first UCP installation on the basis of the ALEPH 3.25 integrated library system (1996) was implemented as a static bibliographic catalog, regularly updated in batch mode with no shared cataloging capability. For two years, this catalog was accessible online via remote terminals and has been available on the Internet for the past six years. The update and control was provided in the background, using the Micro-CDS/ISIS package and the workflow settled into a satisfactory routine.

As mentioned earlier, the ALEPH implementation originated in the CASLIN project more than six years ago. Since that time, the quality and functionality of the system have changed continually. The only results achieved thus far have been the centrally maintained online databases, regularly updating the UCP user database.

Over the ensuing years, the need for an organizational and technological rethinking of our setup became increasingly more obvious, and so a new concept was discussed and drafted and, while the implementation platform was not in doubt, our rethinking focused primarily on the UCP model architecture and the nature of the data processing workflow. With the natural improvement in our knowledge, there was a dramatic improvement in the quality of bibliographic descriptions, and with that a corresponding improvement in overall UCP consistency. The situation was ripe for a dramatic leap forward.

In 2002, the Open Society Foundation in Bratislava invited a proposal for modernizing the UCP. The proposal was prepared with reference to CASLIN and in close cooperation with the Slovak National Library in Martin. The main goal was to implement a cooperative cataloging system, and the execution was scheduled for 2002. UCP was inspired by the best foreign and domestic practices, based on recent standards and using the latest available ALEPH 500 system environment. It is noteworthy that ULB runs the local library system ALEPH 500 V.11 for cataloging and circulation and the new UCP developments have to be provided in parallel. The project proposal was accepted, and the project funded for one year by OSF Bratislava.

The strategic goal of the project is to turn the national union catalog of periodicals into a rich and accurate source of information about the

availability of periodical documents in Slovak libraries, to create an important resource and tool for cooperative cataloging, to provide for the retrospective conversion of local periodical catalogs, and to create a basis for cooperation in the area of periodicals acquisition in Slovak libraries.

The project had a number of detailed objectives, and was expected to yield numerous ancillary benefits. First of all, it had to establish a cooperative system for the union catalog of periodicals as an integral part of the library system in Slovakia. This system would then support the active participation of libraries in the union catalog. It was likely to result in a reduction of costs due to lessened reliance on original cataloging. The broad participation of libraries would then enhance the skills of librarians through the library system, and would also accelerate the processing of periodicals. The project would also create conditions hospitable to retrospective conversion, and generally improve the quality and accuracy of the database through increased reliance on international standards. Searches in the catalog would become more effective, and the project might well point the way toward other enhanced services. ILL services were likely to become more effective, the overall costs of acquiring materials would be reduced, and joint collection management would be enhanced.

It was expected that the operations of the union catalog would lead to a gradually expanding number of participating libraries, and their overall operations would be much improved. It was deemed sensible to build on the experience and procedures of CASLIN, and hence it was natural that the union catalog should rely on the ALEPH software. In fact, the CASLIN and KOLIN libraries are expected to play a key role in the union catalog and have much to say about the planned features of the system. The implementation of the union catalog uses the most up-to-date version of ALEPH 500 system, namely Version 14.2.

In March 2002, the vendor of ALEPH, Ex Libris, provided a test period for the installed Version 14.2, Patch 4. This version was installed on a separate SUN 450 server. The previous efforts had concentrated on the customization of internal data formats (UNIMARC) and staff and user interfaces. The translations of the system messages and templates, the parameter settings for system tables and various minor system adjustments required extensive calibration before the first UCP record could be viewed on the screen. The control parameters of the recent version, very different

than the earlier ones, had to be set ab ovo. Conceptually speaking, the UCP was designed as a set of interconnected catalogs (ALEPH libraries) with standardized data structures for bibliographic data, holdings information and authority records for both the UCP (UCP BIB) with library addresses (UCP ADR) and ISSN (ISSN BIB), and for publisher addresses (PUB ADR). The bibliographical structures of UCP and ISSN are identical. Special Micro-CDS/ISIS export print formats were designed for formatting both the UCP data and ISSN data for import to ALEPH. The conversions were validated by repeated iterated export and import between the two systems. The ALEPH ISO 2709 export was successfully imported using a special Micro-CDS/ISIS field selection table (FST) after the data had been validated using the OSIRIS controls.

The data from the library addresses database (ADR) were exported in a similar way for the standalone ADR database, and also in HTML format for use in the UCP presentation links. Clicking the library codes in the holdings information of the retrieved serial record generates a frame with the library profile, containing direct links to the local catalog or the library WWW site.

The heterogeneity of the automated systems used in local catalogs complicates the situation. Automation systems in use include VTLS, Rapid Library, Libris, OLIB and CDS/ISIS. Only six libraries use ALEPH. The participating libraries will use an ALEPH 500 client for cataloging and downloading data. The data transfer to local non-ALEPH systems is to be solved at workstation level by sharing the locally generated (downloaded) record structure with the ALEPH client. Because of the different working regimes and maintenance cycles of local library systems, the UCP implementation and production environment will use a separate server and separate ALEPH system.

4 The Model of the Union Catalog of Periodicals: UCP

In environments where a fixed-scope union catalog needs to be presented to a large patron community as a basic, high-quality, highly available resource, it seems clear that with current technology, centralized union catalogs have major advantages both in function and in performance.⁴

UCP developed traditionally as a centralized union catalog model. The idea of this type of physical union catalog was subsequently adopted by CASLIN.

New IT technologies facilitate the construction of virtual catalogs. There are many successful virtual union catalogs. However, numerous comparisons and evaluations suggest that “neither of these approaches is panacea, however— both have certain pros and cons, which helps to make the decision which to adopt dependent on circumstances.”⁵

The characteristic of the UCP could be “concrete, downloading to local systems.”⁶ Common problems of union catalogs, such as data heterogeneity, structural homogeneity and semantic heterogeneity, could be handled in this model quite successfully. Another advantage of the centralized model is that it is also appropriate for the special characteristics of periodical documents, such as temporary changes in periodical identification elements, the variety and variability of periodical titles, the need for complementary basic data elements (for example key title, abbreviated title, history etc.), and the necessity for permanent control and update of records even after the serial has ceased to exist.

A centralized model ensures the existence of a precise information resource for ILL, the presence of a unified standard data presentation, the availability of holdings information for several libraries in one database, the consistent interpretation of requests and data, the usage of unified query

⁴ Lynch 127.

⁵ Mathew J. Dovey, “So You Want to Build a Union Catalog?” *Ariadne*, Issue 23. See <http://www.ariadne.ac.uk/issue23/dovey/intro.html>.

⁶ Husby 115.

methods, and the attainment of more precise search results. The data processing centre acts as an expert authority, guarantees union catalog tasks and functions, ensures catalog integrity, reduces levels of record duplication, and also reduces the need for multiple control and supervision of the adopted rules. These advantages outweigh the disadvantages, such as the presence of outdated data in the catalog and the high costs of operating the central facility. A further reason for not phasing out a centralized catalog is the continuing poor level of Internet connectivity. In spite of the fact that the number of libraries connected to the Internet is increasing in Slovakia, there are still many without local periodicals catalogs and without connections to the Internet. Only a union catalog enables them to make their interesting serial collections available to the public at large.

5 Document Types

The structure of document types in the catalog is close to that in similar databases built in the German *Zeitschriften-Datenbank* (ZDB), and/or in the Austrian *Österreichische Zeitungen- und Zeitschriften-Datenbank*, (ÖZZDB), although due to their size, they are not really comparable. They offer coverage of the entire range of periodicals. They contain data on periodicals, journals, magazines, newspapers, yearbooks, proceedings, printed or electronic resources, microform documents, etc., with the exception of monographic series. New forms of publications, such as electronic documents, require new definitions of document characteristics. Some of the new document types are recognized by AACR. Changes in document types are reflected in the cataloging rules and international conventions and are accepted by large international systems, such as AACR2, ISSN and ISBD. What remains is the adaptation of these international systems to the national circumstances, a task that is being currently addressed.

6 Cataloging

One of the main goals of the new project is the cooperative cataloging of serials. In the model that is being implemented, records are kept in the central catalog and imported into local catalogs. Cataloging practice and

indexing policy are determined centrally, but they still allow individual members of the UCP to use their own systems. This practice still necessitates agreement among the contributing libraries concerning the cataloging policies used. A common structure does not achieve anything if there is no agreement on the contents of the structure.

ULB, as the administrator of the catalog, had accepted certain standards and rules. This has not been easy, because the UCP had exact rules for creating data, different from ISBD (S) and AACR2 in some cases. Since minimal record levels were accepted in 1996, catalog records have been processed in UNIMARC and bibliographical records follow the AACR2 and ISBD (S) rules.

Implementation of the cataloging rules that are new for us, such as AACR2 and ISBD (S), presuppose adequate preparation by librarians for handling bibliographic periodical data. In CASLIN, attention was focused only on bibliographic records of monographs. The cataloging of periodicals is more complicated, and cooperative cataloging requires the agreement of all parties.

Another difficult task is retrospective cataloging, and it would be desirable to utilize records prepared by librarians in other countries or data from the ISSN database.

The cataloging environment has become global, and cataloging discussions at international level have intensified during the last decade. Large cataloging agencies and information communities are discussing or carrying out revisions of their rules (AACR2, ISSN, ISBD, German RAK, Italian RICA). The results of this process will be challenging. Different cataloging rules create barriers. Harmonization of the different cataloging codes is affected by another essential factor, the functional requirements of the bibliographic record (FRBR), which has contributed to a theoretical understanding of the cataloging activity among cataloging concerns around the world. FRBR does offer a conceptual framework that has the power to bring different cataloging codes closer together and thus promotes compatibility.⁸ Harmonization of the cataloging codes would be another step

⁷ Husby.

⁸ Husby.

to the utopian goal that a bibliographic resource shall only be described once, which would eliminate conversion discrepancies and problems between different countries and systems. Last but not least, it could have an economic impact as well. This is also a global problem. The activities in the past decade of the major players, such as the Library of Congress, the British Library and others, have not contributed to the consolidation of the scene. A set of national MARC clones has been maintained for a long time. The UNIMARC initiative did not find the necessary support even from its originators. And finally, there emerged the constructive idea to adopt MARC21.

7 Holdings

Important holdings and local information is to be found in every centralized union catalog. Considering that UNIMARC does not have any format for holdings, field 910 was defined for this purpose. In ALEPH 500, it is already possible to use holdings records. Complete holdings records will be provided by the MARC21 format. The structure of holdings also has an important impact on ILL. Syntactical analyses of the holdings structure in UCP have confirmed their 'readability.' This means, however, that rules that govern their creation must be uniform and clear.

8 Cooperation

The basic principles applied in UCP are continuity and accessibility. The continuity principle has been satisfied by the connection of UCP with existing foreign periodicals catalogs. UCP is open to all Slovak as well as foreign libraries, and may cooperate with other similar systems. More than 350 Slovak institutions provide data and cooperate in building the foreign periodicals catalog; the cooperating libraries include all scientific and academic libraries, public libraries, medical libraries and the Slovak Academy of Science libraries, libraries of enterprises of various sizes and of research institutions, etc. After 1989, the number of libraries taking part in the UCP decreased due to the closing of many companies and research institutions.

The academic libraries are growing gradually. These institutions are the co-creators and main users of the catalog. Representatives of all-important libraries with significant participation in the catalog meet in the coordination committee and in working groups. For example, a commission was established in 1996 for minimizing the level of records for print periodicals in UNIMARC, and in 2001 for setting minimal records for electronic serials. Further steps were taken to increase the state of knowledge, the application of international norms and standards in catalog and bibliographic processing of periodicals, and the creation of catalogs for such documents. The apparent problem with using formats other than UNIMARC may be solved in the future by overlapping it with the MARC21 format.

Cooperation with German librarians in the JASON system at the University Library in Bielefeld is also successful. The association between German technology and data and the Slovak UCP has formed a unique information source and provides for the electronic ordering and supply of serial documents.

The UCP project is built on close cooperation between the central UCP administration and the National ISSN Agency. UCP uses this system and its data to a maximum extent. At this point, the ISSN identifier contains 75% of the serial records in UCP. The ISSN Slovak database is the basic source for processing bibliographic records and is available to all UCP participants in ALEPH. The ISSN system carefully controls the lifecycle of serials (predecessors, successors, variant forms), and, as an international system, is subject to multiple expert controls. In the period of 1998–2001, the increase in new Slovak records in the ISSN system (new titles, significantly changed titles) reached 10% of the whole, while less significant changes were recorded in another 10%.

9 Classification and Indexing

The CASLIN libraries have accepted Universal Decimal Classification as the basic classification system. UCP has been organized according to UDC from its inception. It was interesting to discover through a survey of periodical processing that only 16 out of 230 participants in the survey used

UDC. Another 22 libraries mentioned using the keywords, their own systematic classifications, subject headings or a thesaurus.⁹

These findings speak for themselves. It is obvious that the present hierarchical classification scheme, UDC, needs to be complemented with another classification, retrieval language or indexing scheme. One option is to use a controlled vocabulary. Such a decision is not easy to make. There is no classification and indexing system available for a universal union catalog, and yet a selected system must be appropriate for all fields of knowledge and must be acceptable to all libraries that are participating in the union catalog.

The most commonly used and widely accepted subject vocabulary for general application is the Library of Congress Subject Headings schema. It is universal controlled vocabulary. However, LCSH's complex syntax and rules for constructing headings restrict its application by requiring highly skilled personnel, and limit the effectiveness of automated authority control. Partial application of several classification and indexation systems at the same time would cause confusion, and decrease the accuracy of information and of navigation by users in the whole system.

10 Serial Cataloging Training

Librarians need to be trained continually for cooperative cataloging and international standards. However, there are no organizational arrangements for this in Slovakia. From 1999 until 2001, ULB organized workshops on UNIMARC and the creation of new records of print and electronic serials. Currently, an educational program is being prepared. Our purpose is to increase the pool of educated serials catalogers and to raise the quality of serials cataloging records that are contributed to a shared database. We have prepared basic serials cataloging workshops, starting with the definition of the serial, followed by concepts of original and copy cataloging. Classification and new trends in serials cataloging, such as

⁹ MeSH, AGROVOC, EUROVOC; the thesaurus of The British Zoological Society; the international thesaurus used in Astronomy and Astrophysics Abstracts, etc.

cataloging of electronic serials, will also be covered. A session on MARC21 coding may also be included. In the training of librarians and paraprofessionals, we would like to utilize the experience of the effective and authoritative American serials union catalog program, CONSER, and its standardized materials, manuals, and training methods.

11 Conclusions

The union catalog of periodicals, UCP SR, could, step by step, become a quality cooperative system, having direct links to the national ISSN system for bibliographic registration and identification. Much work remains to be done, including building the authority files, defining solutions for holdings-data records, solving the problem of automatic data updating among UCP and local catalogs, preparing the librarians for effective cooperation, handling cooperative cataloging, preparing complementary programs, achieving smoother cooperation with non-ALEPH systems, switching UCP to deal with the full texts of serials, building the electronic ordering system, and solving the problem of the archival storage of UCP on other data media (CD ROM, microfiche).

The tasks are challenging, and put costly demands on librarians in information technology. Experience from some other countries suggests that it may be more advantageous to try to solve the technological problems outside the libraries. To be successful, the process will require continual inventiveness, endurance and cooperation.

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Table 1. Basic Statistical Data of the UCP

Item	2002
Model	Centralized physical union catalog
Format	Online database including cooperative cataloging/copy cataloging
Automated system	ALEPH 500, v.14.2, patch 4 (working in the heterogeneous environment)
Bibliographic exch. format	UNIMARC
Standards, cataloging rules, indexing	AACR2, ISBD (S), UDC
Type of documents	Serials
Number of records in the catalog	38,000
Number of records added per year	1,500–2,500
Number of contributing libraries	350

Item	2002
Type of contributing libraries	All types
Subject coverage	All types
Data range	All date
Retrospective conversion	In preparatory stage
How many serial records contain an ISSN?	75%
Records may be searched by	All titles, ISSN, issuing body, country code, language code, code of the libraries, UDC, corporation, place of publication, keywords from all fields, system number
Availability of documents for loans	90%
ILL requests should be sent	To the libraries holding the item