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Some Remarks about the Cyrillo-Methodian Bibliography in Bulgaria and Its Electronic Version

Abstract: The article presents the work in Bulgaria on the preparation and publication of the Cyrillo-Methodian bibliography. It has been highlighted that since 1980 the Cyrillo-Methodian Research Centre at the Bulgarian Academy of Sciences has been the institution responsible at international level for the collection, processing and publishing of the Cyrillo-Methodian Bibliography. The stages of automation of the bibliography are traced and the need to convert the records from the bibliographic database to a machine-readable format for data exchange is justified. The main prospects for the development of the electronic Cyrillo-Methodian Bibliography are outlined as follows: full-text presentation of the publications described therein; application of bibliographic citation measurement software; constructing an application in which users can add bibliographic records and electronic resources in the field of Cyrillo-Methodian studies.

Keywords: Cyrillo-Methodian bibliography – MARC 21 – bibliographic database – full-text database – bibliographic citations – information exchange

Brief historical data about the Cyrillo-Methodian Bibliography

The first overall Cyrillo-Methodian Bibliography (hereinafter CMB) was the work of Grigorij Iljinskij and it was published in 1934 as an edition of the Bulgarian Academy of Sciences[1]. The work of the Russian scholar was supplemented, edited and prepared for printing in Bulgaria by the Bulgarian philologists Mihail Popruzhenko and Stoyan Romanski. With the release of G. Iljinskij's bibliography, the establishment of a special broad interdisciplinary field in European humanities was legitimised, which is intended to explore the Cyrillo-Methodian work and the Cyrillo-Methodian traditions, by applying methods of various scholarly disciplines. In the following decades, three more overall Cyrillo-Methodian bibliographies were published[2]. Since 1980 the collection, processing and publishing of CMB has been carried out by the Cyrillo-Methodian Research Centre at the Bulgarian Academy of Sciences (hereinafter CMRC). It continued the activity of the reopened in 1971 the Cyrillo-Methodian Commission at the Bulgarian Academy of Sciences, launched the beginning of the systematic collection of the bibliography. The CMRC maintains an electronic database of bibliographic records of articles in the field of Cyrillo-Methodian studies published after 1940. Also, two bibliographies were prepared at the Centre with the descriptions of Bulgarian publications for the period 1846–1944, which are not contained in the bibliographies of G. Iljinskij and M. Popruzhenko–S. Romanski[3]. Nowadays, the work of the Cyrillo-Methodian Resesrch Centre is focused on the collection and presentation of the Cyrillo-Methodian bibliography in electronic format. To supplement it with current information a wide range of printed and electronic sources are used, including foreign bibliographic contributions in the field[4].

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1 Г.А. Ильинский, *Опыт систематической кирилло-мефодьевской библиографии*, под ред. и с доп. М.Г. Попруженка, С.М. Романского, София 1934.

2 М. Попруженко, С. Романски, *Кирилометодиевска библиография за 1934–1940 год.*, София 1942; И.Е. Можаева, *Библиография по кирилло-мефодиевской проблематике. 1945–1974 гг.*, Москва 1980; И. Дуйчев, А. Кирмагова, А. Паунова, *Кирилометодиевска библиография. 1940–1980*, София 1983.

3 В. Желязкова, Н. Зафирова, *Българска кирило-методиевска библиография. 1846–1934 г.*, [in:] *Кирило-Методиевска библиография. 1516–1934*, ред. С. Николова, София 2003, pp. 419–685; В. Желязкова, Н. Зафирова, *Българска кирило-методиевска библиография. 1935–1944 г.*, [in:] *Кирило-Методиевска библиография. 1934–1944*, ред. С. Николова, София 2010, pp. 203–389.

4 See for example: L. Havlíková, P. Ivanič, M. Hetényi, *Po stopách sv. Cyrila a Metoda. Výberová bibliografia českých a slovenských prác za roky 1945–2011*, Nitra 2013; А. Голубовић, В. Савић, *Прилог библиографији домаће ћирилометодијевистике*, [in:] *Свети Ћирило и Методије и словенско писано наслеђе (863–2013)*, Београд 2014, pp. 447–537; Л. Макаријоска, *Прилог кон кирилометодиевската библиографија в Македонија (по повод 1100-годишнината од упокојувањето на св. Климент Охридски)*, "Кирилометодиевистика" 2016, Vol. 10, pp. 123–263.

Automation of Cyrillo-Methodian Bibliography

The history of the automation of the CMB carried out in the CMRC can be presented briefly as follows. In 2000 the bibliographic database of the CMRC was constructed. For the automation, the software product CDS/ISIS (Computerised Documentation System – Integrated Set for Information Systems), maintained and distributed by UNESCO, was selected[5]. In the last decade of the 20th and early 21st century its characteristics have made it possible to correctly present the data from CMB. However, analyses made at the end of the first decade of the 21st century show that this product is now hopelessly obsolete and modifying it would not be effective. Then the question of introducing a bibliographic record format is raised, the specificity of which implies a complete transformation of the database structure. When considering different options, we chose MARC 21[6] (Machine-Readable Cataloguing) for the following reasons. First, the bibliographic records structure in MARC complies with the requirements of the ISO 2709 standard for bibliographic descriptions based on which the CDS/ISIS is built. Second, academic libraries in Bulgaria use MARC 21. Third, MARC 21 is a successful format with a good perspective. The Central Library of the Bulgarian Academy of Sciences (CB BAS) and the National Academic Library and Information System (NALIS), work with MARC 21 in the environment of the integrated library system ALEPH 500, were the partners of the CMRC in the project for transferring bibliographic records to a new information environment. As a result of the successful conversion, the "Cyrillo-Methodian Bibliography" database was presented on the ALEPH 500 platform of CL BAS as an independent resource, the copyright to which belongs to the CMRC[7]. The system offers rich opportunities for advanced search by all elements of the bibliographic record[8].

The exploration of "Cyrillo-Methodian Bibliography" electronic database shows that both its generation and data entry comply with the requirements

5 See: CDS/ISIS software package on address: [online] https://unesdoc.unesco.org/ark:/48223/pf0000381051 [accessed 06.07.2023].

6 *MARC Standards*, [online] https://www.loc.gov/marc/ [accessed 26.01.2023]. At the beginning of the 21st century MARC 21 appeared – designed to be used as a common format for bibliographic data of the USA, Canada, UK, Australia and New Zealand. Soon after its creation, it began to spread rapidly even outside these countries, as most of the producers of library software prefer it when creating electronic catalogues and database.

7 *Кирило-Методиевска библиография / Cyrillo-Methodian Bibliography*, [online] http://aleph.cl.bas.bg/F/I2LN1CP2RVI839QAX3A43GMI7ISQY2NHYJPRSQIYQ87BJI1V4H-00035?func=find-b&request=KMNC&find_code=WST&adjacent=N&local_base=CLBAS&x=0&y=0&filter_code_1=WLN&filter_request_1=&filter_code_2=WYR&filter_request_2=&filter_code_3=WYR&filter_request_3=&filter_code_4=WFM&filter_request_4=&filter_code_5=WCL&filter_request_5= [accessed 26.01.2023].

8 See Fig. 1. and Fig. 2.

of the established worldwide International Standard Bibliographic Description (ISBD) for bibliographic records. This fact should be highly appreciated because it ensures the successful participation of CMB in the international exchange of bibliographic information. At the same time, however, it should be emphasised that its presence in the modern information environment only as a bibliographic resource severely limits its capabilities and dooms it to isolation. In the following paragraphs I will present three of the directions in which bibliography should develop in the future, because I am completely convinced of the value of bibliographic information and the broad prospects for its utilisation in the field of science.

Perspectives. Full-text presentation of the described publications

The first step that needs to be taken is to provide access to the full text of some of the publications described in the CMB, subject to compliance with the provisions of international treaties and the Copyright and Related Rights Act. The belief that providing broad access to scientific publications will contribute to the development of science and its dissemination in society is finding more and more supporters in scientific communities around the world. Bulgaria is confidently integrated in these processes, the evidence of which is the creation of the Bulgarian portal for open access to scientific information as part of the task of uniting and making freely available the result of research works funded by public funds[9]. The full-text presentation of the publications described in the CMB must be preceded by the resolution of the issues concerning:

1. The policy of the participants in the project for the publication of CMB in the virtual space (CMRC, CL BAS, NALIS) regarding access to full-text content.
2. The selection criteria for the documents to be exhibited in full text as a matter of priority.
3. The capabilities of the MARC 21 format and the ALEPH 500 system to connect to external resources.

As regards the first question, full-text presentation may be limited at this stage to documents freely available on the platforms of academic online networks for sharing author's texts or on the websites of the institutions (research institutes, libraries, archives) that create or store them. A good example in this respect is Boyka Mircheva's e-book *Slavonic Cyrillo-Methodian Sources*[10],

9 *Български портал за отворена наука / Bulgarian Portal for Open Science*, [online] https://bpos.bg/ [accessed 26.01.2023].

10 Б. Мирчева, *Славянски кирило-методиевски извори*, науч. ред. В. Желязкова, София 2021, [online] https://www.kmnc.bg/издания/е-книги/ [accessed 26.01.2023].

which has incorporated a significant volume of external (virtual) content in the following way: from each copy of the Cyrillo-Methodian source its digital copy (if available) is accessed through links, as well as copies of the inventories, publications and studies dedicated to it, and the links usually refer to the sites of libraries and archives, where the relevant resources are freely accessible. For the materials described in the bibliography, for which we do not have the consent of the author or publisher for their free distribution on the Internet, restrictions on the provision of access should be introduced – for example, only for authorised users registered in the system.

With regard to the procedure according to which the documents will be presented in full text, the correct solution is to start with the earliest publications as well as with the main articles in this field: inventories, catalogues, reference books, editions of texts, fundamental research. In addition to secondary documents, the full-text database should also cover primary Cyrillo-Methodian sources.

Regarding the third question the following can be said. The MARC 21 format does not have the popularity of the international formats for organising bibliographic data Dublin Core, Bibliographic Ontology (BIBO), Schema.org, nor of the article distribution systems Academia.edu, ResearchGate, Mendeley, Zotero etc. This is due to the fact that it is known and applied only in the strictly specialised field of library cataloguing. The format was created in 1999 following the merging of the format of the US Library of Congress (USMARC) and the Canadian National Library (CAN/MARC). It complies with the American National Standard for Information Exchange ANSI/NISO Z39.2 and its international equivalent ISO 2709, as well as the International Standard for Bibliographic Description (ISBD) and the second edition of the Anglo-American Cataloguing Rules AACR 2.

Currently, there are five varieties of MARC 21:

1. Format for Bibliographic Data.
2. Format for Authority Data.
3. Format for Holdings Data.
4. Format for Classification Data.
5. Format for Community Information.

The first format contains the basic information necessary for the identification of a certain document: author, title, publishing data, identification/serial number of the publication, physical characteristic, remarks, international standard numbers. Authority data includes names and subject headings that are used as data to access bibliographic records in searches. The third type of a format covers information about the physical location of individual copies of the document in a certain library. Classification data reveal the contents of documents by means of classification indexes and related explanations. The latter format allows generation of databases with detailed and up-to-date information

on persons, institutions, programs, etc., mentioned in the bibliographic records. Despite its complex syntax, MARC 21 is the most common format for building library information systems and therefore the conversion of records from the Cyrillo-Methodian bibliographic database to it ensures their inclusion in the international bibliographic exchange. In addition, there is a possibility to build a digital repository as an application to the library system ALEPH 500 of the CL BAS, which will store the full texts of publications described in the CMB. The application will perform the following main functions: entering and managing publications (version of the edition, publishing license, date of publication, restrictions on online access); storage of digital objects (files); synchronisation with other repositories in the field of Palaeoslavic and Medieval Studies; indexing of text content for the purposes of full-text search in it; connectivity and direct transfer from the bibliographic records in the ALEPH 500 system to the respective texts in the repository. Thus, in practice, the application will function as a full-text database.

Measurement of bibliographic citation

The second trend for the development of CMB is its transformation into a consolidated resource that can trace the links between individual bibliographic references, thus facilitating scientific metric study of authors' citations. With the help of the increasingly complicated tools for measuring bibliographic citation nowadays, huge volumes of bibliographic data of the referenced literature are organised and stored in many *institutes* for *scientific information* in the preferred citation style with bibliographic lists being automatically generated. Among the most significant web-based platforms, that generate high-quality content and tools for accessing, analyzing and managing scientific information, are Web of Science, SCOPUS, Academic Search Complete Database (EBSCO). However, a significant problem is the fact that they mainly include English-language periodicals. For the other journals, a bibliography and abstracts in English (or transliteration of the titles of the cited articles from other languages) are required. This significantly limits the analytical representation of world science to a small percentage of the most cited organizations, which do not include renowned universities and institutes. Therefore, there is a need to create national indices of citations, in which measurements in the field of humanities occupy a special place due to their specific characteristics.

The systems applied for the study and analysis of bibliographic citation are different. Some are integrated into research platforms and database portals on subscription with the possibility of free installation. Others are available with free access – as a web-based version or downloadable to a personal computer. Their functional purpose also covers a wide range – importing and exporting

bibliographic data, storing bibliographic information and sharing (exchanging) information. The most commonly applied software products for bibliographic citation measurement are EndNote, RefWorks, Zotero, Mendeley, Citavi. The development of CMB in this direction must be preceded by a comparative analysis of the specifics of different software products for measuring citations, as well as an analysis of methods of integrating them with the bibliographic and full-text database of the Cyrillo-Methodian publications.

Open Access Application to Supplement Bibliographic Information and Full Text Content

The third particularly important perspective for the CMB is its development as an interactive system in which users can participate by providing data for publications. For this purpose, it is necessary to build a web application to the bibliography where they can share information about publications, as well as digital copies of documents in the field of Cyrillo-Methodian studies.

The expansion of the functions and capabilities of CMB is a prerequisite for achieving completeness in the bibliographic coverage of materials, which in turn will accelerate the implementation of Cyrillo-Methodian studies and will make their results more secure, i.e., will contribute to the development of the field of Cyrillo-Methodian studies.

Fig. 1. Advanced search in Database "Cyrillo-Methodian Bibliography" (Online Catalogue of the Central Library of BAS)

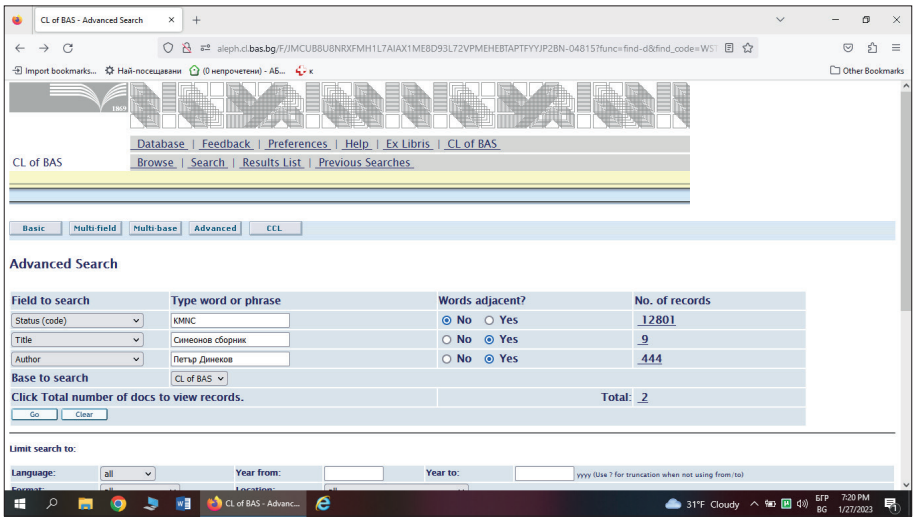

Fig. 2. Bibliographic record in MARC format (Database
"Cyrillo-Methodian Bibliography", Online Catalogue of the Central Library of BAS)

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