

# Authority control in Serbia

UDC 025.342:006.44(497.11)

UDC 025.342:004.65(497.11)

**ABSTRACT:** This paper describes the process of constructing Serbian authority database of personal names, its value for cataloguing, universal bibliographic control development and Serbian library community. It continues with a discussion about authority control in the world in the 21st century and describes authority control as a tool for library contribution in Linked Open Data agenda.

**KEYWORDS:** authority control, Serbian authority database of personal names, Linked Open Data

**PAPER SUBMITTED:** 13 September 2016

**PAPER ACCEPTED:** 15 December 2016

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## 1 Introduction

During its long tradition, libraries and allied institutions were primarily oriented to collecting and cataloguing the results of intellectual or artistic work of individuals and institutions. The unambiguous determination of individuals and institutions associated with the described work and a description of the publication has been the focus of cataloguing. The aim was to locate the resource and to provide the access to the described resource (Angjeli et al., 2014). Identification of persons associated with resources in catalogues came from its focus on the choice of its name and form that will be the basis of the uniform heading together with a unique formulation of the uniform heading and aspirations to establish a syndetic structure<sup>1</sup> of catalogue. The Linked Open Data concept and the Semantic Web (top-down model in which the bibliographic records of electronic catalogues are based on the MARC format), which fitted and suited the needs of 1990s users, were no longer sufficient to ensure the existence of the library catalogues

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<sup>1</sup> The syndetic structure comprises the system of "see" and "see also" cross references to other indexing terms.

which needed to become a part of the Web 2.0 reality. "The need to improve interoperability within the World Wide Web gave rise to the development of the Semantic Web, which in turn led to the appearance of many new ways to control and standardize the description of documents, solve problems surrounding diverse indexing systems, and improve the interoperability of records (SKOS, SIOC, Dublin Core, FOAF, etc.) (Јеива-Медерос и др, 2014/2015:36, 2015)." One of the ways of reshaping the catalogue in this respect is an intensive work on the creation and development of authority files and linking them with the bibliographic databases. Authority files projects have begun being developed within the universal bibliographic control in the early 1970s of the 20th century, when a recommendation that the national bibliographic agency "should maintain an authority control system for national names, personal and corporate, and uniform titles, in accordance with international guidelines . . ." (Guidelines, 1979) was adopted. Accordingly, unambiguous identification of persons connected with the resource being described on the national level or the national personal name authority files for the newly created environment of the Semantic Web has become an extremely valuable tool to connect and exchange the information, in the first step of creating international files (for example, the VIAF<sup>2</sup> ISNI<sup>3</sup>), then a reliable source for use beyond the library community.

## 2 The implementation of authority control in the Cooperative Online Bibliographic System and Services (COBISS)

Cooperative Online Bibliographic System and Services COBISS are being developed since 1987 when the shared cataloging system in the former Yugoslavia was established. The Institute of Information Science (IZUM) from Maribor was responsible for the development of organizational solutions and software. In 1991 IZUM promoted the COBISS system as an upgrade of the shared cataloguing system. Due to social and political changes, COBISS system continued to develop as a Slovenian library and information system. When the libraries of emerging countries reestablished cooperation on the territory of the former Yugoslavia in 2003, an agreement was signed on establishing of the COBISS.Net network. National databases of five countries

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<sup>2</sup> VIAF (Virtual International Authority File), <https://viaf.org/>

<sup>3</sup> ISNI (International Standard Name Identifier), <http://www.isni.org/>

(Slovenia, Serbia, Bosnia and Herzegovina, Macedonia and Montenegro) were connected.

During the development of the system as a national Slovenian system, where the focus was to connect local databases in union COBIB database, consistency, uniformity and quality of the local bibliographic databases and union bibliographic databases were held “by authority control for authors’ personal names, by duplicates control, by COMARC software controls, by record editing, by global code lists for all standardized data (e.g. countries, languages, UDC), by local code lists to provide uniformity of data within a library (e.g. locations, internal designations), by automatic counters (e.g. accession numbers, numbering in call numbers), by unique identification control of serials, etc.”<sup>4</sup> However, the authority control project has not evolved alongside library and information system.

The first analyzes were carried out in 1994 and the first prototype version of the authority file was made in 1996 when the cooperative bibliographic database contained approximately 1 million bibliographic records. Assessing the quality of authority file as unsatisfactory, IZUM continued to upgrade the authority file prototype and made three versions. CONOR V 3.0 was promoted in 1998 and represented a solid basis for further development of the authority control project. It was followed by further consideration of the editing records, work organization, preparing manuals for authority data, proposed ways of linking bibliographic and authority records and proposals to upgrade the software. In collaboration with the National and University Library (NUK), the testing of V 4.0 draft authority file CONOR began in Ljubljana, year 2000. The editing and entering of new records onto the next version started in 2001 and by 2003, the authority file was included in the shared cataloguing system in Slovenia. This version was based on a number of top quality bibliographic records that were the basic for the software to create authority records. Firstly, the authority records for personal names for Slovenian authors were created. The plan was that the entire machine created authority records should be edited before including authority file in the shared cataloguing system.

The implementation of authority control implied upgrading software for sharing cataloguing. In January 2003, the software COBISS2/Cataloguing V6.0 for cataloguing with authority control has already been developed and

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<sup>4</sup> Narodna biblioteka Srbije, „Platforma COBISS – Kooperativni online bibliografski sistem i servisi“ [http://www.cobiss.net/platforma\\_cobiss-SR.htm](http://www.cobiss.net/platforma_cobiss-SR.htm) (Accessed 22. 07. 2016)

training of cataloguers started. Software testing continued and a new edition COMARC/A based on the 1998 edition was issued. It was planned that phase two of the project should also include corporate names.

Today, the personal name authority file of authors and corporate bodies in Slovenia contains over 900,000 authority records (Seljak, 2004).<sup>5</sup>

The implementation of authority control in the shared cataloguing system in Slovenia was a significant step towards linking data and providing access to data, enriching the quality of national library information system and strengthening partnership with similar international systems. The project has shown that the implementation of authority control in bibliographic databases originally designed without authority control was an extremely complex task. It would have been ideal if the development of both, the projects of shared cataloguing and authority control, could have been arranged in parallel. This concept is more economical, requires less time and is a great professional challenge for cataloguers.

### 3 Authority control in Serbia

Based on the proposal project of Ljiljana Kovačević and Gordana Popović-Mazić and on the initiative of a Virtual Library of Serbia (VBS), in January 2006 a document "*Guidelines for the Preparation of Bibliographic Records for the Program for the Creation of Personal names Authority Records*" had been prepared. Naturally, once the proposal was adopted, the realization of the project was started in collaboration with IZUM, while the National Library of Serbia, the Matica Srpska Library and the University Library "Svetozar Marković" were responsible for the project with the participation of all libraries in Serbia who maintain and develop their catalogues under the COBISS platform. It should be noted that the COBISS system does not gather Serbian library network as a whole and the implementation of the authority control is not related directly and absolutely to all local catalogues, but in strategic and technological terms this solution was optimal. The COBISS system is the only one who possessed the potential to be the base of the construction and expansion of a modern national authority control in Serbia, which is assumed to be likely to give results.

The emphasis was on name heading since it was decided to create the personal name authority file first, with further expansion to the scaling of

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<sup>5</sup> <http://cobiss4.izum.si/scripts/cobiss?ukaz=BASP&bno=509&id=1955089254138144>

all other access points. In late 2008 the VBS team for the catalogue editing was considering an issue of so-called "parallel headings" and took the decision to implement this solution in the Serbian authority file. The first phase of the implementation of authority control in Serbia was related to the preparation and marking of bibliographic records, and making set of records that will serve as a basis from which the authority records will be extracted. In order for this phase of the project to be put in place, cataloguers of the National Library of Serbia, the Matica Srpska Library and the University Library "Svetozar Marković" were engaged. "Parallel headings" are the specifics of Serbian personal names authority file and it refers to a parallel use of the Cyrillic and Latin script in the creation of the uniform heading for the personal name. The national libraries of other countries are in a similar situation, for example, the National Library and Archives of Canada, which has a so-called bilingual cataloguing policy. "Parallel headings" are created for persons whose names appear in the etymological form, both in English and French.

The focus was on the primary authorship or co-authorship i.e. data entered fields 700 and 701 COMARC/B format. Preference is given to Serbian authors and foreign authors whose works have been translated into Serbian. Selected bibliographic records are supposed to be accurate and uniform heading created in accordance with applicable cataloging rules.<sup>6</sup> Slovenian model was used as a base, however Serbia needed to develop its own model. This was also necessary in view of the mentioned specificity which is reflected in the parallel headings. The legacy of the card alphabetical library catalogues in Serbia is reflected in the shared electronic catalogue COBIB.SR and the use the Cyrillic and Latin script in the selection and creation of the personal names uniform heading. Therefore, it was essential to establish the principle of "parallel heading" which encompassed the Cyrillic and Latin form of the name of a person, and also pairing phonetic and etymological form of the name of the author.

### **Example 1**

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<sup>6</sup> *Rules and Guide for the Creation of the Alphabet Catalog Part 1,2* is still valid cataloguing code for cataloguing in Serbia and adopted as the national cataloguing code. With certain modifications concerning the rules for the creation of personal names uniform heading of authors whose etymological form in foreign Cyrillic, standardized forms of names of persons is formed in accordance with the first part of the mentioned cataloguing code.

200 1<7>cb Cyrillic - Serbian <a>Младићевић<b>Жељко<f> 1977-  
 200 1<7>ba Latin <a>Mladićević<b>Željko<f> 1977-

### Example 2

200 1 <7> ca - Cyrillic script unspecified <a>Алексеев<b>  
 ГлебВасильевич <f> 1892-1938

200 1 <7>ba - Latin<a> Alekseev <b>GlebVasil'evič<f> 1892-1938

400 1 <7>cb - Cyrillic - Serbian <9>srp - Serbian <a>Алексејев<b>  
 ГљѐВасиљевич<f> 1892-1938

### Example 3

200 1 <7>cb - Cyrillic - Serbian <a>Томас<b>Скарлет<f> 1972-

200 1 <7>ba - Latin<a> Thomas <b>Scarlett <f> 1972-

Example 1 illustrates the "parallel heading" formed for Serbian authors. It consists of the Cyrillic and the Latin form of the personal name. For those authors whose work is created in a language other than Serbian, and etymological forms of their names are written in Cyrillic/Latin other than Serbian alphabet, "parallel headings" make etymological form of the Cyrillic and transliterates it into Latin forms (if the etymological form of the name is in Cyrillic), however not Serbian (example 2) or phonetically, the Serbian Cyrillic and Latin etymological form (example 3).

This phase of the project took longer than planned; it was completed in 2010 and resulted in a corpus of over 54,000 bibliographic records. We used those records as basics for initial personal names authority file CONOR.SR which was installed in 2013.

As a model for the implementation of authority control we used the Slovenian project and the experience of Slovenian colleagues, with modifications. The first step was to install the software COBISS3/Cataloguing and the transition to a new technological platform. There was organized training for chief librarians in editing authority records and establishing the form and structure of parallel headings. Within COISS3, during 2013, all assumptions have been satisfied for the start of editing of initially automatically created authority records.

Based on the experiences of Slovenian colleagues, we decided to edit all authority records before linking authority file and bibliographic database.

Slovenian colleagues were automatically connected to authority file and bibliographic database without editing authority records, which was neither efficient nor economical and it did not make cataloguing process better or easier. This situation imposes the need for simultaneous editing of the authority records and all the bibliographic records linked with them.

On the operative level, a team of six librarians (two librarians from the National Library of Serbia, two from Matica Srpska Library and two from the University Library "Svetozar Marković") was formed, which is the highest level in the organization of the further realization of the project. Their main tasks were: creating a work plan, establishing the principles of senior librarians' team, planning of duties and writing guidelines for records editing.

The editing of the initial personal name authority file began in 2015 with only 6 chief catalogers engaged. As the highly complex task was not progressing as planned, the team size gradually increased, firstly the Matica Srpska Library engaged more cataloguers, then the University Library "Svetozar Marković" and finally the National Library of Serbia. There are 23 catalogers currently engaged and 8533 authority records<sup>7</sup> have been edited. It is planned to expand the teams and, over time, work efficiency will be increased. *Guidelines for the Preparatory Authority File CONOR.SR Editing* are completed.

The aims of the personal name authority file project is primarily ensuring quality control and standardize the information which would facilitate the work of cataloguers and classifiers, and enable users to search and use the resources efficiently. This can only be achieved by consistent use of preferred forms of terms, concepts and entities. The implementation of authority control increases the presence of a library on a global network and a more efficient use of their resources. In addition, the aim was also to further international exchange of information and improve cooperation with other libraries and allied institutions. It should be mentioned that in Serbia there is still a number of libraries that will indirectly benefit from the results of creating authority file. Many libraries maintain their electronic catalogues within the systems that do not support bibliographic data sharing with libraries that work within COBISS platform. Authority files should also be the source of lexical and bio-bibliographical data, and as such could have a widespread use. Direct exchange of data is the widest framework of authority control, but we should not negate the importance of using authority files as a data source.

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<sup>7</sup> Data relating to 1. 08. 2016.

Personal name authority file CONOR.RS is based on international standards<sup>8</sup> and the tendency is to expand the project to other access points of bibliographic records, while the long-term goal is, of course, participation in a virtual international authority file.

## 4 Authority control in 21<sup>st</sup> century

The growing trend of opening data, providing access to data and their use and exchange refers to many national and international systems and libraries are invited to engage in this agenda. The first step is the transition to Linked Open Data communication. Broadly, libraries are adopting new ways of achieving one of its primary goals – dissemination of knowledge. This was possible to achieve only with the new data structure, adapted to modern ways of communication. And this was not a small step. According to D. Hillmann et al., the standards related to the cataloguing have been designed for users and referred to the printed text documents or presented in a document format on the Internet (Hillmann et al., 2010). The focus was on libraries adjustment towards interaction between computer-computer, but in a contrasting way to the one we knew. This also includes interaction between the library community and non-library community, where data exchange was becoming necessary. The Semantic Web and the Linked Open Data has become a new reality. Libraries have something to offer to the new platform. Controlled terms lists, classification schemes, thesauri, subject headings and authority files, as library artefacts, are suitable for structuring so as to be adequate for the information exchange also beyond the library community.

By adopting the RDF model (Resource Description Framework), the basic framework for defining, use and exchange of metadata that increased interoperability of data, libraries take a more active role. They are offering their resources to the Web users and take part in the Semantic Web. It was the only choice. Otherwise libraries would be ignored in the world of information. According to G. Byrne and L. Goddard, by developing RDA

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<sup>8</sup> The most important documents are: *GARE – Guidelines for Authority and Reference Entries*, edited by IFLA on 1984; *GSARE – Guidelines for Subject Authority and Reference Entries*, edited by IFLA on 1993 and *UNIMARC/Authorities* also edited by IFLA on 1991. Later, three more documents were published: *FRBR – Functional Requirements for Bibliographic Records* in 1998; *FRAD – Functional Requirements for Authority Data* (2009) and *FRANAR – Functional Requirement and Numbering of Authority Records* (2009).



(Resource Description and Access), FRBR (Functional Requirements for Bibliographic Records) and FRAD (Functional Requirements for Authority Data), the libraries have embraced the change (Byrne and Goddard, 2010). We agree with the same authors that the RDA has also raised a number of questions and has distanced librarians towards the new concept, especially among cataloguers. The authority files were the first serious advantage for participating of libraries in the integration of information. It was the way to discover library collections in machine-readable form. Online public catalogues have been satisfying this need; however, the new requirement is to make the information available and present it in a machine-readable form. The library information should be present on the Internet in a standardized form that can be enriched and easily connected with other information. In this context, the international standard ISNI uniquely and unambiguously identifies the name of the creator and the corporate bodies since 2006, and there are currently 9.12 million names. ISNI is connected with the VIAF. VIAF is one of the first attempts of linking authority records of different libraries using advanced technologies and the aim was to create an online public service and to improve authority control at national and international level. Then, the British Library released the British National Bibliography in 2011 as Linked Open Data open-related data. It included local URI in one field of authority record, and similarly did The Library of Congress, as well as The French National Library, which assigns permanent authority records identifier derived from the identification number of the record. Such projects have also been launched by Spanish, German and Hungarian libraries. These are all examples of an increasing number of libraries present on the Internet and library value for its traditional users and the Web community. Authority files have the characteristics of bio-bibliographic lexicons. They provide information about the name of the person associated with some intellectual or artistic content, including alternative forms of names and forms of names in other languages, data on the year of birth and/or death, other biographical data and extract from a bibliography, which is illustrated by example 4.

#### **Example 4**

001 <a>c - corrected or revised record <b>x -  
authority entry record <c>a - personal name entry

100 <b>a - established <c>srp - Serbian

<g>cb - Cyrillic - Serbian

101 <a>srp - Serbian

102 <a>srb - Serbia <b>cs - Central Serbia <a> bih - Bosnia and Herzegovina <b>rs - Republika Srpska Република Српска

106 <a>0 - may be used as subject access point 120  
<b>a - differentiated personal name <a>a - female

152 <a>PPIAK - Pravilnik i priručnik za izradbu abecednih kataloga  
19011 <a> 1951 <b> 01 <c> 31

200 1 <7>cb - Cyrillic - Serbian <a> Радуловић <b>  
Здравка <f> 1951- <r> 04130

200 1 <7>ba - Latin <a>Radulović <b>Здравка <f>1951- <r>04130

340 <a> Bibliographer adviser. She graduated from the Department for Comparative Literature and Library Science at Faculty of Philosophy, University of Sarajevo. In the same Department, she defended her master's thesis 1998. She worked at the Department for Library Science at Faculty of Philosophy, University of Sarajevo, then in Bibliographic Department of Central National Library of Montenegro „Djordje Crnojevic“. Since 1997 she has worked in National Library of Serbia and in period 2005-2015 she was head of Bibliographic Department. Also, she was a laureate of award "Dušan Panković" for outstanding achievements in the field of bibliography “.

810 <a> Библиографија часописа "Библиотекар" : (1948-1997) / Здравка Радуловић, Долорес Калођера-Петровић

810 <a>Evropske integracije [Elektronski izvor] : bibliografija monografskih publikacija i članaka u serijskim publikacijama : 1995-2008 / [izrada bibliografije Здравка Radulović]. - 2009

810 <a>Библиографија часописа "Дабро-босански Источник" : (1887-1911) / Здравка Радуловић. - 2010

The importance of authority files reflects in improvement of library activities and their impact on the entire information community. Authority files improve library services, expand the library target groups and thus the library takes an active role in the information environment. The second aspect of importance goes beyond the borders of a service and refers to the general exchange of information and modern communication model.

## 5 Conclusion

The Linked Open Data concept, applied to the library as a public institution, means that the data they create and store are publicly available, information use is free and can be reused. Realization of this concept has not been possible by maintaining bibliographic databases. They are relational databases, and it was necessary to increase the interoperability of data and make them available via the Web. This is achieved by including authority files into existing electronic catalogues. The data structured that way have become part of the Linked Open Data concept. That concept has strengthened the library presence on the Internet, expanded library users group and it has been the answer to the modern age which is an "era of global librarianship, based on cooperation and exchange of resources and information and partnership at all levels." (Билбија, 2015). Pieces of information are combined and the dissemination of information in a new way builds a partnership with users and provides better library services. The basic principle of universal bibliographic control is the joint use of information. Modern technologies offer new ways of achieving this principle. The authority files ensure relevance of the data globally, internationally and outside the library community. Also, the exchange of data between technologies is enabled. This is the goal of the Serbian community library, too. The overall objective is the accumulation of knowledge and its systematization and open, shared use of all human knowledge.

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