

Dragan Golubović
INFOBIRO Digital Archive

EXPERIENCE OF INFOBIRO DIGITAL ARCHIVE IN DIGITIZATION OF BIH PRESS AND MAGAZINES

Abstract: The purpose of this paper is to offer insight into processes of digitization of newspapers in Bosnia and Herzegovina (BiH) by presenting activities of Mediacentar Sarajevo and its Digital Archive INFOBIRO. The author presents activities related to digitization of cultural and historical heritage through digitization of BiH periodicals and increasing its availability. The digitization in most European countries is conducted under the auspices of state cultural institutions (libraries, archives); however, in BiH, digitization is performed by Mediacentar Sarajevo and its Digital Archive INFOBIRO. A model of cooperation with key stakeholders in BiH will be explored, as well as issues of copyright and the selection of materials to be digitized. A scheme with metadata description of materials will be presented.

Key words: digitization of historical newspapers and magazines, cultural and historical heritage, copyright, digitization process, organization of digital archives

1. Introduction

Newspaper and magazine print in BiH dates back to April 1866 when Ignjat Sopron's "Pečat-nija" was opened in Sarajevo (Ademović 1997). First issue of *Bosanski vjestnik* was printed on 20 April 1866, although records exist that the first official BiH magazine – *Bosanski pri-jatelj* - was printed in Zagreb in 1850 (Ademović 1997). In the past 145 years BiH has had a constant and continuous print production. A part of this production belongs to what is defined by UNESCO as movable cultural heritage¹. For the purposes of this paper, cultural and historical heritage refers solely to newspapers. Over the course of the years, a great number of significant and very valuable publications were printed. Newspapers are intended for public use and are circulated under specific conditions; as such, they represent an extremely valuable resource for professionals, historians, journalists, students and others. Access to these materials has been made difficult due to a lack of a unique catalogue which would make it possible for users to determine where individual publications are located –in libraries, archives or museums. There is no information on the volume and state of these publications.

Conditions they are kept in are generally not at a satisfactory level. Accessibility is limited to a very narrow circle of users (one publication is accessible to one user in one location at a given time). All of this negatively impacts on the state of scientific research and education in the country.

A comprehensive digitization process and an increase in accessibility of publications online would significantly prevent further deterioration of cultural heritage. An increase in accessibility will also help create preconditions for creation of a central catalogue.

¹ http://portal.unesco.org/culture/en/ev.php-URL_ID=34050&URL_DO=DO_PRINTPAGE&URL_SECTION=201.html

2. Newspaper digitization in Bosnia and Herzegovina

Relevant institutions in BiH have still not come up with a comprehensive strategy for digitization of library, museum, and archive materials. Ministry of Civil Affairs under the BiH Council of Ministers is in charge of culture and education at the state level but has never shown initiative or interest to pass such a strategy. Similarly, libraries, museums and archives do not take the digitization process seriously and are doing little to provide BiH citizens with access to their country's heritage, although EU guidelines clearly stipulate that citizens have the right to free online access to their cultural heritage.² In Bosnia and Herzegovina digitization is conducted in the National University Library of Republika Srpska (<http://www.nubrs.rs.ba/cms/-index.php> - NUBRS), Gazihusrefbey's Library (<http://www.ghbibl.com.ba/> - GHB), Library of Sarajevo (www.bgs.ba - BS), National Museum of BiH (<http://www.zemaljskimuzej.ba> ZMBIH) and Mediacentar Sarajevo (INFOBIRO www.infobiro.ba MCS). Most institutions digitize materials without previously agreed standards and formats that would secure their inter-operability, and without control mechanisms that prevent overlaps. It is safe to say that there is no systemic approach to digitization and preservation of cultural and historical heritage in BiH. Except for Gazihusrefbey's Library and the National Museum, all institutions present their digitized objects online via their web sites.

3. Newspaper archive of Mediacentar Sarajevo and INFOBIRO digital archive

Mediacentar Sarajevo (www.media.ba) was established in 1995 as an institution specialized for journalist training. MCS started developing its hardcopy newspaper archive in 1996. Over time, it became a very valuable and rich newspaper archive with the most complete collection of press issued between 1992 and 1995. It contains 70% of publications issued during the war in BiH. However, hardcopy archive was only accessible to users who could physically visit MCS premises and only during MCS working hours. In order to increase accessibility and searchability of periodical publications in BiH, in 2004 MCS launched the INFOBIRO Digital Archive (www.infobiro.ba). INFOBIRO is a database with web platform. Articles in the database are fully searchable and described using the metadata.

Between 300 and 350 articles from the most prominent newspapers and magazines in BiH and the region are archived daily. Besides offering commercial access to the archive, this type of printed material collection preserves it for future generations.

Table 1 Article metadata

Article metadata
Title of publication
Name of publisher
Article super-title
Article title
Article sub-title
Author
Date
Periodical number of publication
Page in periodical publication

² Commission Recommendation of 24 August 2006 on the digitization and online accessibility of cultural material and digital preservation (2006/585/EC)

Type of article (interview, report, editorial, comment, etc.)
Text

4. Project “Digitization of cultural and historical heritage of BiH: BiH press between 1866–2016”

Having realized that BiH is greatly behind other countries in the region and the EU when it comes to digitization, INFOBIRO embarked upon a comprehensive digitization project targeting old BiH periodical press. The project began in 2006 and has been supported by the FBiH Ministry of Education and Culture. The goal of the project is to complete the following tasks by 2016, which marks 150 years of the beginning of printing in BiH:

1. to digitize and preserve all available publications for future generations;
2. to increase accessibility of newspapers for wide user groups through INFOBIRO;
3. to enable free access to digitized materials for all citizens of BiH;
4. to make digitized publications available in other digital libraries in the region and abroad (Europeana as a priority) and to include their digitized collections in INFOBIRO;
5. to complete funds of libraries, museums and archives in BiH and the region with digitized newspapers;
6. to promote and spread awareness of importance of preservation of newspapers among experts and general public.

The project has a clear vision, purpose, and user population. The envisaged duration of the project is 10 years, with revision every three years. The project activities are mapped out on a yearly basis for each project phase and include:

- Selection of content for each project year
- Identifying copyright for each publication, if available
- Determining financial resources
- Determining location where publication is kept
- Digitization process and processing of digitized content
- Archiving in digital archive
- Promotion of project results

The project is divided into seven ‘chapters’ for easier implementation and management. Chapters are based on the historical context of BiH which affects appearance or disappearance of individual publications. Chapters are as follows:

- a) Ottoman rule in BiH
- b) Austro-Hungarian rule in BiH
- c) First World War
- d) Kingdom of Serbs, Croats and Slovenes/Kingdom of Yugoslavia
- e) Second World War
- f) Socialist Federal Republic of Yugoslavia
- g) Independent BiH

Following the presentation of the project at the Ministry of Culture and Sport and their official approval, the Ministry financially supported establishment of the Digitization Center under INFOBIRO Digital Archive. Digitization of the *National Museum Herald* (*Glasnik Ze-*

maljskog muzeja) between 1889–1940 was the first pilot project.³ The Herald was an obvious choice since:

- It is an extremely valuable magazine that was first issued in 1889;
- It is the first scientific magazine in BiH;
- Its full collection was available at the National Museum;
- There is a continuous demand for this magazine;
- In most cases only one original copy is available;
- It was easy to establish copyright.

Since Mediacentar and INFOBIRO do not have in their collections newspaper publications that are subject of digitization, the entire digitization process is conducted in cooperation with archives and libraries across BiH which keep those materials.

The first Agreement on Cooperation was signed with the National Museum of BiH, and shortly thereafter with the National and University Library “Derviš Sušić” from Tuzla, Museum of Eastern Bosnia in Tuzla, Archive of Tuzla Canton, and Archive of Bosnia and Herzegovina. Between 2006 and 2010 the following publications were digitized and archived:

Table 2 Digitized publications

No.	Historical period	Publication	Period digitized	Period archived in INFOBIRO	Publication distributed on CD/DVD	Target institution
1.	Ottoman rule	Bosanski prijatelj 1850–1870	1850–1870	1850–1870	YES	National Museum
2.	Ottoman rule	BOSNA				National Museum
3.	Austro-Hungarian rule	Bosanska Vila 1885–1914	1885–1914	1885–1914	YES	National Museum
4	Austro-Hungarian rule /SHS Kingdom	National Museum Herald 1889–	1889–1940.	1889–1940	YES	National Museum
5	Austro-Hungarian rule	NADA	1889–1903.	1889–1903	YES	National Museum
6.	Austro-Hungarian rule	Bosanskohercegovačke novine 1887–1881	1878.	1878	NO	Archive of BIH (ABIH)
7.	Austro-Hungarian rule	Sarajevski list 1881–			NO	ABIH and National Museum
8.	SHS Kingdom	Židovska svijest				La Benevolencija Archive
9.	Second World War	Front Slobode	1943–1947	1943–1945.	NO	Tuzla Canton Archive
10.	Second World War	Narodne novine	1942–1944	-----	NO	ABIH
11.	SFRJ	Sineast			YES	Mediacentar archive and private collections
12.	SFRJ	Pozorište			YES	NUB „Derviš Sušić“

³ http://elib.mi.sanu.ac.rs/pages/browse_issue.php?db=ncd&rbr=15&start=10

13.	SFRJ	Articles and other content		_____	NO	Eastern Bosnia Museum
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5. Selection of material, digitization and archiving

Selection of priority material is an important segment of the digitization process. Expert staff at INFOBIRO Digital Archive prioritizes preservation and accessibility of content to be digitized based on the following criteria:

- Value of content
- Level of damage, where applicable
- How important it is to reduce the usage of the original
- To what extent the content is used in its analogue form
- Whether publication is under copyright.

In order to make sure the most valuable materials are digitized, it is essential to introduce certain criteria for evaluation of the content. Criteria defined in Guidelines for Selection of Digitization Content represent a useful reference point. Value of the content may be evaluated based on its intellectual weight, historical or material value (Guidelines for Selection of Digitization Content, 2007).

Digitization process at INFOBIRO Digital Archive is divided into three steps:

- Conversion from analogue into digital format.

Conversion is done using the A3 Epson 20000 scanner. According to recommendations of the CENDI Digital Task Group⁴, the following formats are considered to be quality digital formats: TIFF, PDF/A-1. XML and PDF. INFOBIRO has chosen 350 DPI scanning in PDF format which is most suitable for further processing.

- Processing digital objects using OCR software

In order to make content of digitized objects searchable for users, it has to be processed back into Word format which can be archived in Digital Archive. Level of legibility of the resulting Word document depends on the quality of the original. Experiment conducted during digitization of magazine NADA using the Abby Fine Reader 2.0. yielded encouraging results (Golubović, 2010)

- Preparation and archiving in INFOBIRO Digital Archive

The final step is the preparation of digital objects for online archiving, attaching metadata to digital objects, and actual archiving.

6. Searchability of digitized collections

Compared to other institutions involved in digitizing and presenting digital objects via internet in BiH, INFOBIRO is unique in allowing users to perform full search of digitized publications. It is possible to search collections individually or as a whole. The term “collection” refers to project chapters (see above Digitization of Cultural and Historical Heritage in BiH: BiH press 1866–2016). This means that the search results cover the entire period from 1850 until today.

As an illustration, a search key word may be “Bosnian music”. The first result of this search dates back to 1889 and relates to the *National Museum Herald*, while the last result is

⁴ Formats for digital preservation: a review of alternatives and issues , 2007

linked to *Oslobođenje* daily paper in 2011. Shortcomings of this type of archival organization are visible when it comes to search terms whose meaning has changed over time. Typically this concerns the names of cities and towns in the former Yugoslavia. Inconsistency in this aspect may lead a user to a wrong conclusion or may deny insight into desired results. For instance, the term “Biograd” in old press refers to today’s capital of Serbia Beograd. A user who does not know this fact will not be able to benefit fully from the results of the search. Experience so far has shown that full searchability of archived publications is not an absolute solution; it is also necessary to introduce thesaurus as an additional tool for users.

7. Copyright and digitization and archiving process

Issue of copyright is inseparable from the process of digitization and this is a fact that must not be brushed aside. On the other hand, libraries, archives and museums have been protecting and preserving intellectual property of different authors for centuries in accordance with the Law on Copyright. Libraries, archives, and museums collect written material, protect it, and allow access to it for users. New contemporary technologies enable greater access to such material. Copyright Law in BiH is clear about who is considered to be an author and what copyright covers:

Article 6, Chapter II “Author and Copyright” of the Law reads: *„copyright work shall be considered to be an individual creation from the field of literature, science, art and other creative activity, regardless of the type, manner, and format of expression, unless otherwise prescribed under this Law. Copyright work includes:*

- a) *Written work (books, brochures, literary texts, articles, other writings and computer programmes).*
- b) *Oral work (lectures and work of similar nature)*
- c) *Drama and drama-musical work*
- d) *Choreography and pantomime*
- e) *Musical work with or without lyrics*
- f) *Film and work created in a film-like manner*
- g) *Work from the field of painting, sculpture, architecture and graphic, regardless of the material used, and other artistic work*
- h) *Work under any branch of applied arts and industrial shaping*
- i) *Photography and related work*
- j) *Cartography work (geographical maps, topographic maps etc.)*
- k) *Plans, schemes, plastic work relating to geography, topography, architecture or other scientific or artistic area.*

It is clear that the Law includes cultural heritage. Should there even be a dilemma between digitizing copyright heritage and waiting for the copyright to expire? Law on Copyright and Related Rights in BiH⁵ in its Chapter VII, Article 84, under “Duration of Copyright” clearly defines: “Copyright lasts for the duration of author’s life and 70 years afterwards”.

INFOBIRO’s digitization process has been partly successful in adhering to the Law on Copyright.

- a) Copyright material has been digitized.
- b) Material not under copyright has been digitized.

Copyright clearly protects authors that published their work in publications such as *National Museum Herald*, *Sineast*, *Naši dani*, *Pozorište* etc. (see Table 2). However, digitization

⁵ Zakon o autorskom pravu i srodnim pravima u BiH, Službeni glasnik (07/02)

of these valuable articles was done in order to protect these publications from further deterioration and to compile all issues in one place (e.g. Sineast was completed from private collections). Ultimately, articles are not subject to commercial exploitation within BiH and their digitization has been approved by the publisher. Libraries, museums and archives are facing the increasing needs of users alongside their obligation to take proper care of their collections. Despite their aspiration towards quality, this often brings them in direct conflict with the Law on Copyright.

The solution is to make peace between the two extremes, to take into consideration interests and needs of all - cultural institutions, copyright holders, and wider community. It is a win-win situation for everyone to make possible the digitization and free access to publications which existed many years ago but whose authors are still formally protected by copyright.

8. Conclusion

The protection of newspaper records as part of cultural and historical heritage and identity of a country should be one of the top priorities in any country. Efficient management and good organization are key preconditions for successful preservation of this type of material. Existing administrative set-up in BiH makes digitization at the national level impossible. Institutional authority over movable cultural heritage has not been clearly legally defined. Financial support of the state and entities in BiH (BiH Federation and Republika Srpska) for the protection of cultural heritage is very modest and restricted by absurd legal limitations such as that organizations are not allowed to receive funding if they are registered in a different entity regardless of the fact that the project will be implemented in that entity or in the entire state.

Currently it is possible to identify certain shortcomings from the perspective of Bosnia and Herzegovina that relate to the process of digitization in the region. General shortcoming is the lack of an inefficient regional cooperation in the digitization process, which directly causes the lack of joint projects in the field of digitization, the lack of a common presentation of digitized materials, and the lack of common standards for digitization that would allow sharing of digital collections. Taking into account that the projects related to digitization of cultural and historical heritage are extremely expensive and that even much richer societies than those of the countries in the region find it difficult to cope with such costs in spite of clear recommendations on the importance of such materials for generations to come after us, stronger regional cooperation presents itself as the only possible solution.

Experience of INFOBIRO points out towards new trends and the ability to change established practices when it comes to digitization. Common practice requires that the digitization process be conducted within the state institutions, generally the national libraries. Practice conducted by Mediacentar Sarajevo as the founder of INFOBIRO digital archive and initiator of the digitization process in BiH, says otherwise. MCS is a non-governmental organization and has no secured budget for its activities related to digitization. Digital objects that are archived in INFOBIRO are free to use (download) for all users whose IP addresses are in the territory of Bosnia and Herzegovina. Finally, the Center for digitization is organized in a way that it is in a state of hibernation when there are no project activities.

From the point of view of INFOBIRO, it is necessary to deconstruct the digitization process in a way to find a modality of cooperation between organizations dealing with protection of cultural heritage. It is almost certain that there is good communication between the institutions that are on the same level, such as the national libraries. The problem occurs with the independent institutions that are also dealing with digitization and protection of cultural and historical heritage. How to bring them inside the “circle of trust” of governmental

libraries, how to enable them to present their activities, and finally – how to accept them as equal partners?

INFOBIRO digital archive probably runs against the stereotype that high-quality digitization projects should be implemented by the state or similar library from the state budget. Similar institutions such as INFOBIRO face problems of being recognized by others as relevant partners, despite the fact that these institutions are run by adequately trained personnel who work with professional equipment. Access to EU funds is also made difficult because they are not governmental institutions. We are talking about a range of small and large obstacles that present themselves to organizations not depending on the state budget. One thing is certain - the quality should become one of the most relevant factors in addressing the modalities of cooperation between institutions.

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dragan@media.ba