

2022

The Challenges of the Current and Retrospective Digital Archiving of Doctoral Dissertations: Toward Integration of Several University Collections at the University Library “Svetozar Marković” in Belgrade

Tatjana Brzulović Stanisavljević

University of Belgrade, University library “Svetozar Marković”, Belgrade, brzulovic@unilib.rs

Dragana N. Stolić

University of Belgrade, University library “Svetozar Marković”, stolic@unilib.rs

Follow this and additional works at: <https://scholarworks.uaeu.ac.ae/j-etd>



Part of the [Higher Education Commons](#), and the [Library and Information Science Commons](#)

Recommended Citation

Brzulović Stanisavljević, Tatjana and Stolić, Dragana N. (2022) "The Challenges of the Current and Retrospective Digital Archiving of Doctoral Dissertations: Toward Integration of Several University Collections at the University Library “Svetozar Marković” in Belgrade," *The Journal of Electronic Theses and Dissertations*: Vol. 2, Article 2.

Available at: <https://scholarworks.uaeu.ac.ae/j-etd/vol2/iss1/2>

This Article is brought to you for free and open access by Scholarworks@UAEU. It has been accepted for inclusion in The Journal of Electronic Theses and Dissertations by an authorized editor of Scholarworks@UAEU. For more information, please contact j-etd@ndtld.org.

The challenges of the current and retrospective digital archiving of doctoral dissertations:

**Toward integration of several university collections
at the University Library “Svetozar Marković” in Belgrade**

Tatjana Brzulović Stanisavljević¹ and Dragana Stolić¹

¹University of Belgrade, University Library “Svetozar Marković,” Belgrade, Serbia

Abstract

The University library “Svetozar Marković” possesses the most extensive and most valuable collection of doctoral dissertations defended at the University of Belgrade and other universities in Serbia or abroad, but this corpus is not unique. It can be divided into several sub-collections: current doctoral dissertations, which include mandatory archiving since 2012; a collection of doctoral dissertations digitized retrospectively by users’ demand; and, finally, a collection of old Serbian dissertations, which includes those defended by Serbian scientists at foreign universities and defended at the University of Belgrade at the beginning of the 20th century. In this paper, these sub-collections are described, analyzed, and observed through several criteria (completeness, existing support, location, availability, and copyright issues). The importance of a straightforward procedure was revealed, and copyright issues were identified as predominant. Legal regulations at the national or university level, together with library institutions that perform digitization services, can achieve desirable results.

Keywords: dissertations, archiving, digitization, retrospective, copyright, CC licenses, library services

1. Introduction

The University Library “Svetozar Marković,” the central library of the University of Belgrade, possesses the most extensive and precious collection of doctoral dissertations in Serbia. In this paper, several groups of doctoral dissertations will be presented, mainly defended at the University of Belgrade but at the other universities abroad and digitally archived at the University Library “Svetozar Marković.” The completion of these collections and their integration into the superior one poses a significant challenge for the library.

The corpus of dissertations observed in this study is not taken as a unique, homogenous collection, but rather complex or divided into particular sub-categories. They will be analyzed using the following criteria:

- *Comprehensiveness*: Does the actual number of units in the collection meet the expected or desired number of units?
- *Institutional support or procedural control*: What organizational, procedural, and other conditions or requests are essential for a particular collection, and on what level is management conducted in the academic hierarchy?
- *Location of the material for digitization*: Does the process of creating a collection require cooperation between institutions?
- *Availability*: What percentage of dissertations is freely available?
- *Copyright*: Are copyright issues resolved, and how do these questions influence the creation of a particular collection?

The accent will not be on technical aspects or on the fact that the university library hosts collections of dissertations from other universities in Serbia. Instead, the aim is to present a

particular professional experience of one university institution trying to identify, analyze, and adequately treat specific parts of library collections.

2. Historical background

The University Library “Svetozar Marković” is the Central Library of the University of Belgrade, founded in 1905, as a continuation of the Belgrade Higher School (established in 1863, as the successor of the last Lyceum established in 1838) (University of Belgrade, 2022). The establishment of the first university in the country was the result of a century-long effort that started at the beginning of the 19th century, when the first Higher School was founded so that Serbia could catch up to modern Europe in the shortest amount of time, through the development of education (Трговчевић, 2003).

The Law of the University from 1905 predicts the existence of the PhD exam and the PhD title as necessary conditions for all university lecturers, from assistant professors to full-time professors (Закон о Универзитету, 1905). A few years later, the first theses were defended at the university, simultaneously creating the first systematic collection of dissertations. This intention was facilitated by the founding of the University Library (today the University Library “Svetozar Marković”) in 1921, with the main mission of supporting the university’s educational and scientific work (Пуцаревић et al., 2021).

The library collection of doctoral dissertations was formed even before the Central Library was finished, and when the new library was opened to the public in 1926, it already possessed a profiled and specific collection, which included theses. Since then, the library has continued to gather theses and other types of student papers, but since it became a deposit

institution for dissertations defended at the university, the collection of dissertations, which make a mandatory copy, remains the most complete and distinguished.

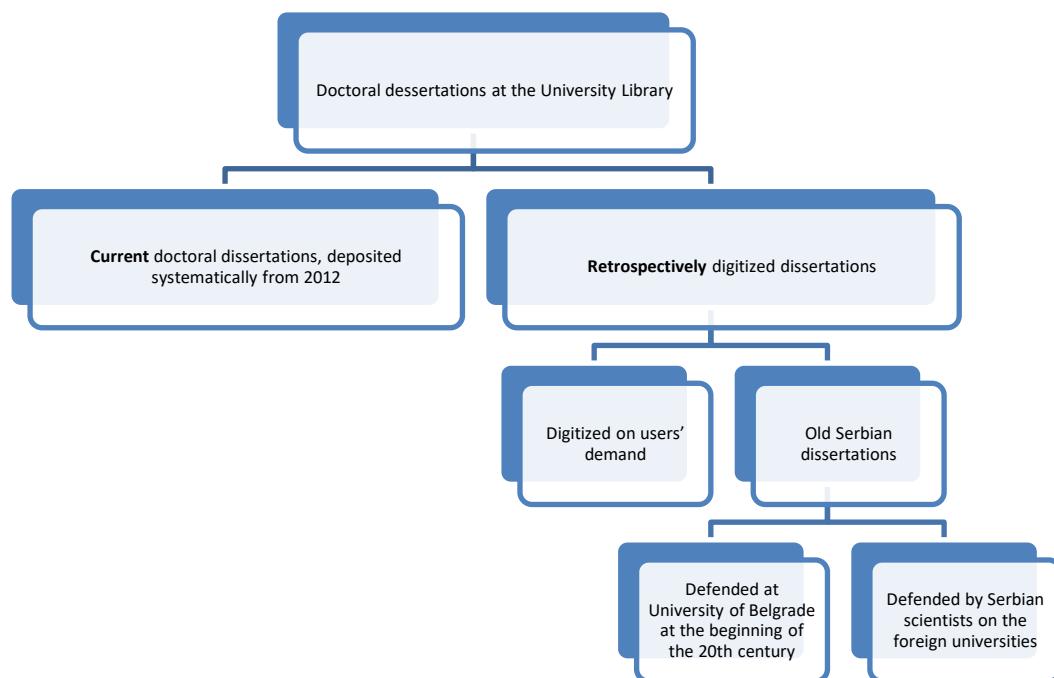
Extensive processes of digitization, which started systematically after 2007 and established repositories, had dissertations as one of its main targets, apart from digitized manuscripts. The first standardized repository was established in 2011: the digital repository of the University of Belgrade (PHAIDRA), and today the dissertations are its main content. This repository also provides the core infrastructure for the following sub-collections of electronic dissertations (PHAIDRA, 2022).

3. Collections

Digital transformation of library collections not only includes the conversion of analog files into a digital form, but also several processes such as:

- Establishing the process/procedure of collecting and archiving the digital-born material, and managing and controlling the steps in that procedure;
- Reorganizing the existing material, its completion, and the formation of the modified one—the new digital corpus does not have to reflect the material that exists in library stocks, but more often has its own particularities;
- Providing technical support;
- Identifying copyright problems and choosing an adequate and acceptable solution.

The following sections will describe parts of the University Library's collection, analyzing the particular number of each of these issues among them. Schematically, collections that are possessed by the University Library can be presented.



3.1 Current doctoral dissertations

The collection of current doctoral dissertations constitutes the most comprehensive university collection in the country. It contains more than 6,500 theses, with a growth of approximately 500 new dissertations per year.

The foundation of this collection is based on several aspects that provide a continuous and controlled process, including an adopted procedure that includes relatively straightforward copyright aspects and adequate technical and professional support. By the end of 2011, the University of Belgrade decided that all dissertations defended at this university had to be digitally archived into the newly established digital repository PHAIDRA and its subsystem E-theses (eteze.bg.ac.rs), and that decision was applied in 2012 (Докторске студије, 2022). These decisions included several elements:

- Beginning in 2012, all dissertations must have both electronic and hard copy versions.
- Dissertations must follow particular university instructions on the mandatory elements and the necessary supplementary materials that every thesis should possess; besides unification, these instructions have two further goals:
 - o To ensure that every dissertation retains the required metadata for the Digital repository;
 - o To provide copyright information; it must include, as an integral part of the thesis, a Creative Commons statement (all six CC modules), enabling PhD students to choose one of the modules.
- Copies of both versions (digital and analog) are required to be provided to the rectorate of the university; after the dissertation is defended, these copies will be delivered from the rectorate to the University Library. This is the main and very important part of the procedure, since previously theses were sent to the library after promotion, and this change in the procedure enabled the better monitoring that the material will be delivered to the library.
- The University Library will archive both copies permanently, following the copyright indications provided by the PhD students.
- The university repository delivers data on dissertations to other portals and repositories (NaRDuS, the National Repository of Dissertations in Serbia; DART–Europe; Open Access. Theses and Dissertations [OATD]).

This system of digital deposition of doctoral dissertations was supplemented with new national legislation in 2014 when open access (OA) to doctoral dissertations, strongly

recommended in 2011, became mandatory for all universities in Serbia by adopting changes to the Law on High Education (Закон о високом образовању, 2016).

Although the procedure is relatively straightforward, after a decade of practice, some problems and challenges can be identified. Some challenges are decreasing, but we cannot say that they have disappeared entirely. The main problems are:

- The lack of some mandatory elements of a thesis (rare);
- More often, undefined copyright status (missing Creative Commons Licenses).

The solution to this is organized, preferably mandatory, educational activity, especially concerning copyright issues, as an instrument of prevention. Otherwise, it requires additional effort within the library, such as contacting the faculties and candidates of the thesis so that they can declare their choice of CC license.

To provide a long-term and sustainable solution, the University Library has organized an educational program, “The Formatting of Doctoral Dissertations,” conducted since 2015 for more than 1,000 PhD students. The topics of this short training are the different elements of a doctoral dissertation, steps in the evaluation procedure, and most importantly, an explanation of the purpose of the CC licenses.

Current dissertations are procedure-based, and institutionally monitored and controlled. Therefore, we expect this collection to grow in a predictable dynamic manner. Although some difficulties are identified, they cannot impede the procedure as a whole, which can be improved but not endangered.

3.2. Retrospectively digitized dissertations

The retrospective digitization of a doctoral dissertation is not a simple process because it raises numerous questions, such as whether this collection is homogenous or divided into several sub-collections, and how to prioritize the process.

The experience of the university library shows that some processes were logical continuations of previous ones, but each of the sub-collections has particularities, and sometimes not immediately visible obstacles.

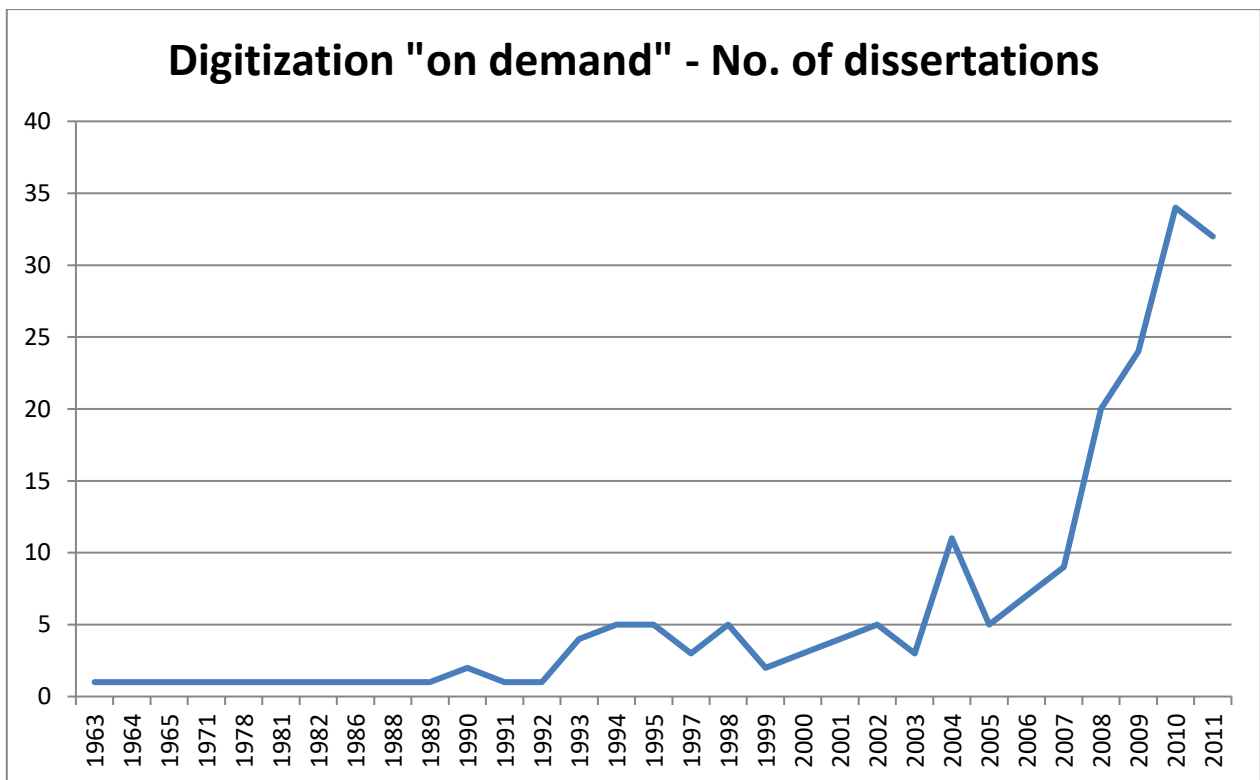
3.2.1. Digitization on demand

Soon after establishing the procedure for current doctoral dissertations and building the necessary infrastructure of the repository, interest in depositing the dissertations defended before 2012 was noticed. Such claims were primarily motivated by the users' need to deposit their PhD thesis in OA to fulfill requests from foreign universities, founders, etc.

This is why the University Library established a new service: the digitization of the dissertations upon demand or user request, which has been active since 2013. The concept of such digitization means that users ask the library to digitize the hard copy of the dissertations that are part of the library collection. This applies to all dissertations defended before 2012, when mandatory electronic archiving was brought by the university. The idea of this procedure was not only to meet users' requests, but also to establish a sort of interactivity or cooperation between the library and users, who are in a position to provide additional data on a dissertation that is already part of the library collections and available only in paper.

The digitization process on demand includes sending an online request with the necessary agreements or statements similar to those used with current dissertations (the most crucial part is choosing the Creative Commons License). It is also possible for users to offer their electronic version of the dissertation, in which case they have to fill out another statement on identity to confirm that this electronic version is identical to that deposited in the library. The digitized dissertation from the library collection will be archived and joined with the existing collection of current dissertations. The number of digitized dissertations was 195, as indicated in the graph below.

Figure 1.



The graph shows that the number of digitized dissertations grew as the year of mandatory electronic archiving approached, which could indicate that the process of creating the digital-born

dissertations started several years before the new university policies. Other requests (from 1963 till 1990) are exceptions, reflecting authors' will or even their heirs to make their work visible.

The following obstacles and problems in this process were noticed:

1) Motivation. The main challenge is motivating authors to send a request for digitization and open access their thesis. In 2014, this motivation came from the possibility of dissertations to obtain DOI numbers (DOI Serbia PhD, 2014); however, it did not last long, only during the length of the project being conducted at the time. So far, the motivation has been based on the author's identified interest (requested open access for dissertations or DOI number).

2) Impossibility of fulfilling the process. Digitization on demand cannot be finished, and the creation of a complete collection is not possible; that is why it should not be treated as a way to create a special collection of an electronic doctoral dissertation but as one more library service.

In contrast, this procedure has no copyright issues and enables specific cooperation between users and the library in creating content for the repository and enriching collections. Since it is not likely that legislation, national or academic, will be introduced in the recent future, as in the case of the current collection, which could help overcome the obstacles mentioned above, the only solution would be a broad and organized campaign to promote the service and motivate potential users (Столић, Брзуловић-Станисављевић, 2017).

3.2.2 Digitization of old doctoral dissertations

Digitization of old dissertations (from the end of 19th and the beginning of the 20th century) can be defined as "real" retrospective digitization's because there is no direct request from users. The corpus selection that will be the subject of digitization is solely at the discretion

of the project's author or to the institution that conducts the project, which is the university library. In this case, the issue is highly connected to the preservation, research, discovery, and presentation of cultural elements, that is, scientific heritage. The project "Digitization of doctoral dissertations defended before 1941: Dissertations of Serbian scientists defended on foreign universities and dissertations from Belgrade University (1905–1941)" was supported by the Ministry of Culture and Information of the Republic of Serbia in 2014.

During the project two sub-collections were created:

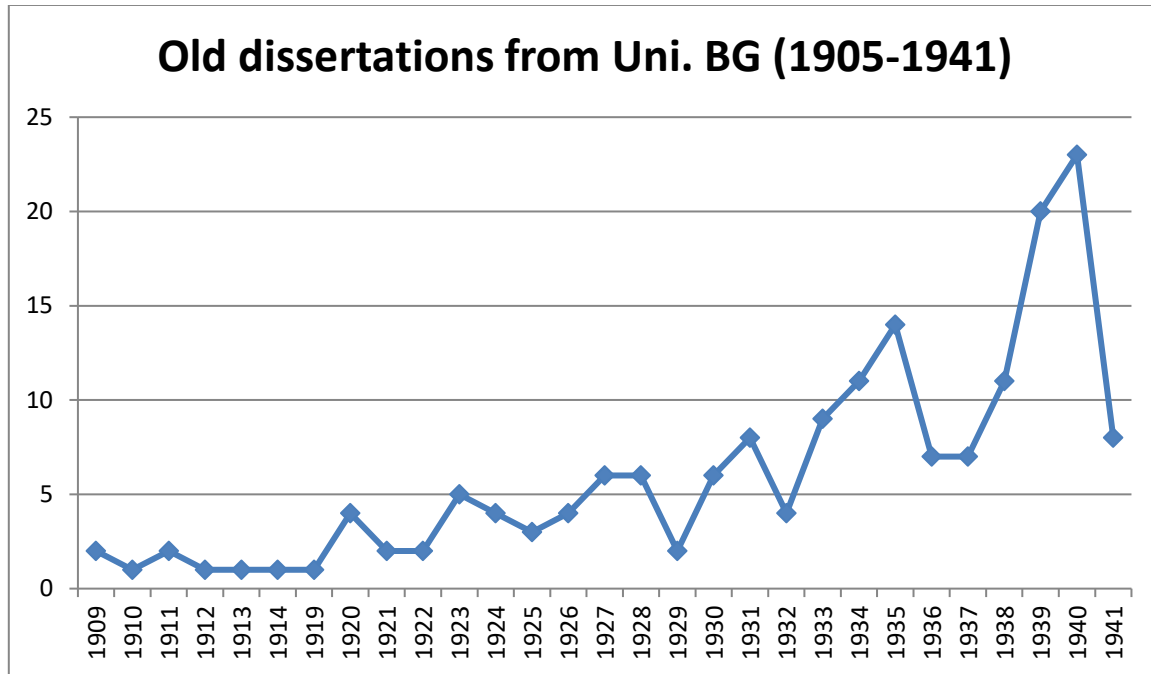
- a) Dissertations defended at the University of Belgrade beginning in 1905, when the previous Higher School was established as the university, and
- b) Dissertations defended by Serbian scientists in foreign universities, mostly at the end of the 19th century and beginning of the 20th century.

The first group created 175 dissertations between 1909 and 1941. Most dissertations are from the university library's collection, but a small number belong to the law faculty (10 dissertations). This number of dissertations made up around 70% of the total number of dissertations defended at the University of Belgrade in its earliest days. However, some dissertations do not possess a university library. The reason for this is that some dissertations were not printed like others (in a small number of copies).

All dissertations from this sub-collection are deposited in the digital repository of the University of Belgrade, which means that they are integrated with current dissertations and dissertations digitized on demand. This is how to increase the visibility of scientific heritage and receive better awareness from the university.

Figure 2.

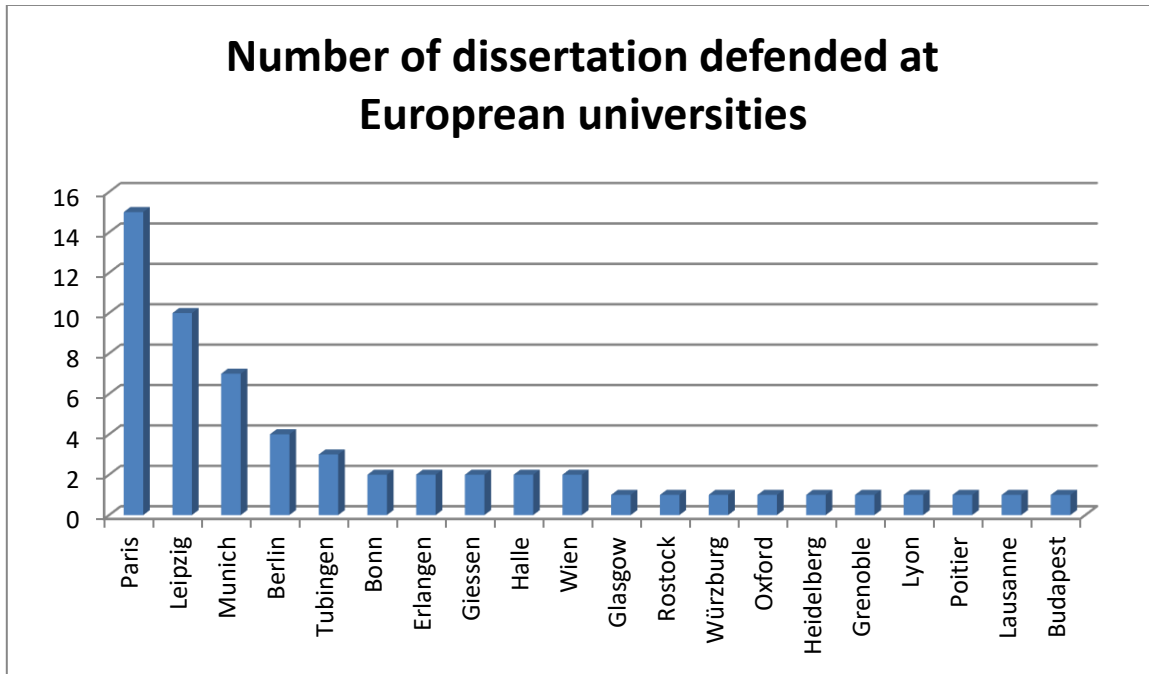
Number of old dissertations defended at University of Belgrade 1905–1941



The second subcollection gathers almost 60 dissertations from various foreign European universities, where some distinguished Serbian scientists defended their academic papers. Dissertations reveal a significant national, scientific, and cultural heritage. They reflect an important part of national history by documenting the efforts of the Kingdom of Serbia to build, in a short time, a newly educated elite as a moving force in the rapid development of Serbia after regaining its complete independence in the last decades of 19th century. After obtaining their degrees in major European universities, some became significant figures in national academic life and national science. This collection also contributes to the recognition of the profound connections between national and European sciences.

Figure 3.

Number of dissertations defended at European universities



Because of its particularities, this collection could not be integrated with the dissertation from the University of Belgrade, so they were deposited into the particular repository—Omeka-based (Inoteze) (Doctoral dissertations of Serbian scientists defended abroad, 2022). Similar to dissertations digitized on demand, this collection is constantly open to users and can also grow, since the practice of “studying abroad” for Serbian scientists existed throughout the 20th century and still exists today. For this reason, the growth of this collection is not only synchronous (towards other dissertations from that period) but also diachronic, gathering living scientists who agreed that their dissertations were deposited in this repository and available in open access.

4. Analysis

Following the criteria defined at the beginning, the actual situation with all subcollections can be presented and summarized in a table.

Table 1.

	Current dissertations	Dissertations digitized on demand	Old diss.—Uni. Belgrade at the beginning of the 19th century	Old diss.—foreign universities
Comprehensiveness	High	Low	Medium	Low
Institutional Support/procedural control	University level	University library level	University library level	University library level
Location of the material	University Library*	University library; private users' collections	University library; branch libraries	University library; foreign (European universities)
OA	Almost 100%	100%	Less than 40% in OA	Less than 40% in OA
Copyright (explicit agreement of the author or copyright holder)	Resolved	Resolved	Not resolved for a significant number of diss.	Not resolved for a significant number of diss.

The table shows that only with current dissertations, which have mandatory open access, controlled procedure, and explicit support from the university, it is possible to create a large, freely accessible, uniform, sustainable collection that will reflect the achievement of the university. Despite all noticed problems, the solutions are visible and applicable in short notice.

All other sub-collections located solely in the library face some difficulties: they cannot achieve the criteria of completeness, free availability is not possible, and copyright issues are unsolved for a significant number of dissertations.

5. Conclusion

This short review of the collection in the central library of the University of Belgrade shows the surprising variety of purposes and qualities found in the term “collection of electronic dissertations,” proving that the complexity noted above is indisputable. Electronic theses can be part of strict university procedures (current dissertations); the results of new library services (digitization on demand); or specific aspects of our scientific, national, and cultural heritage.

The possibility of creating a comprehensive collection of doctoral dissertations is conditioned by several factors, among which the most important is support. For some collections, it is impossible to gain the same type of necessary support (procedural, as with current dissertations). This could be a national initiative in providing adequate law amendments (concerning “orphan works”) or government support in financing sufficient research to gain more data on candidates who defended their dissertations more than a century ago.

In the case of current dissertations, it is evident that by having adequate procedural support, the library could be involved in educating and disseminating information among PhD students, and this kind of education has been realized in the library since 2015. However, the efforts of the library itself can only partially overcome this problem. Only visible, explicit support mainly dedicated to legislations changes (Petrović, 2020) can bring desirable and sustainable results (in particular, changes of the law concerning “orphan works”).

References

Doctoral dissertations of Serbian scientists defended abroad. (2014). <http://inoteze.unilib.rs/> (accessed 10.08.2022)

Doi Serbia Phd. (2014) <http://www.doiserbia.nb.rs/phd/> (accessed 10.08.2022)

Etheses of the University of Belgrade. (2012). <https://eteze.bg.ac.rs> (accessed 08.08.2022)

Petrović, M. Z.. (2020). Pravna regulativa dela siročadi (orphan works) u Evropskoj uniji i Republici Srbiji. *37(2)*, 95-111.

PHAIDRA – Digital repository of the University of Belgrade. (2011). <https://phaidravg.bg.ac.rs/> (accessed 08.08.2022)

University of Belgrade, *The History of the University.* <https://bg.ac.rs/en/university/history.php> (accessed 07.08.2022)

Универзитет у Београду *Докторске студије.* <http://www.bg.ac.rs/sr/studije/doktorske.php> (08.08.2022)

Закон о високом образовању: 76/2005-3, 100/2007-4 (Аутентично тумачење), 97/2008-51, 44/2010-28, 93/2012-182, 89/2013-3, 99/2014-3, 45/2015-27 (Аутентично тумачење), 68/2015-69, 87/2016-3 76/2005-3, 100/2007-4 (Аутентично тумачење), 97/2008-51, 44/2010-28, 93/2012-182, 89/2013-3, 99/2014-3, 45/2015-27 (Аутентично тумачење), 68/2015-69, 87/2016-3. <http://www.pravno-informacioni-sistem.rs/SlGlasnikPortal/reg/viewAct/5f688c8e-4798-470f-9adf-5bc0739c72aa> (accessed 09.08.2022)

Закон о Универзитету. (1905). <https://ius.bg.ac.rs/wp-content/uploads/2021/07/zakon-o-univerzitetu-1905.pdf> (accessed 08.08.2022)

Пуцаревић, С. М., Чанковић, Ј., & Шаховић Мишић, С. (2021). *Књижохранилиште Универзитета у Београду - почеци: изложба поводом 100 година од оснивања и почетка градње Универзитетске библиотеке “Светозар Марковић” у Београду.* Београд: Универзитетска библиотека “Светозар Марковић”.

Столић, Д. & Брзуловић-Станисављевић, Т. (2017). Дигитални репозиторијум Универзитета у Београду - PHAIDRA: правни аспект. *Правни аспекти дигитализације културне баштине = The legal aspects of digitisation of cultural heritage.* Научна конференција Правни аспекти дигитализације културне баштине (2017 ; Београд), 181-192. Београд: Институт за упоредно право.

Трговчевић, Љ. (2003). *Планирана елита: о студентима из Србије на европским универзитетима у 19. веку*. Београд: Историјски институт; Службени гласник.