Marko Stojićević
Faculty of Mathematics, University of Belgrade

IMPORTANCE OF CULTURAL HERITAGE DIGITIZATION IN THE ERA OF COVID-19 PANDEMIC

Abstract. Digitization of cultural heritage is a process of converting the physical form of an object into a digital one. This allows wider accessibility to the object, hence there is no physical constraint for access. In the time of the COVID-19 pandemic, when physical contact is difficult to maintain, the importance of digitization is noticeable. This paper presents some of the publicly available digitized cultural heritage and analyzing the value of its importance in the time of the pandemic.
Keywords: digitization, COVID-19, pandemic, cultural heritage

1. Introduction

The COVID-19[1] pandemic was officially declared by the World Health Organization (WHO) on March 11th 2020. This continued with massive worldwide "lockdowns" and recommendations regarding social distancing. Some countries even declared a state of emergency, among which was Serbia. During this period, all public institutions were closed and there was a ban on social activities.

Social distancing, which was initiated by the reaction to the pandemic, affected almost all life spheres – work, travel, spare time, etc. Among other things, all cultural events were canceled or postponed. Therefore, this had an affect on museums and theaters, which had to be closed for public. Even though it was not possible to enjoy its content in its physical form, it was still widely accessible. Almost every large museum, gallery, theater or library allowed taking virtual tours. This kind of reaction was possible due to digitization. Virtual tours ranged from Metropolitan Museum of Art in New York, Louvre in Paris, to the Rijks museum in Amsterdam. In Serbia, there was also a wide range of available cultural content – from National Museum of Serbia and Belgrade Philharmonic Orchestra to The National Theater of Serbia.

As it is emphasized in the guidelines written by Serbian Ministry of Culture and Information, digitized cultural heritage is a public good that should be accessible to the widest circle of interested parties, to the extent that it does not violate intellectual property and privacy. The aims of digitization, besides the preservation of cultural heritage, are also the promotion and availability of cultural heritage and allowing access to a wider audience [1]. In the time of pandemic, digitization was the only action that could allow public access to the worldwide cultural heritage. But are we „digitized" enough? As for an estimation that was given a few years back, only 17% of cultural heritage (kept in European heritage institutions) was digitalized by 2015 [2]. Another

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[1] As described by World Health Organization (WHO), COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019. COVID-19 is now a pandemic affecting many countries globally. (https://www.who.int/emergencies/diseases/novel-coronavirus-2019/question-and-answers-hub/q-a-detail/q-a-coronaviruses)

source said that in 2014, Europeana, the great European digital library, contained over 30 million objects and it was estimated to be a 10% of the available digital cultural heritage in Europe [3]. Bearing this information in mind, it seems there is only a small number of available digitized data, and that there is still a long way to go. Of course, digitization should not be used just so we could have larger percentage numbers in reports. In the time of the pandemic (as in "normal" times), digitization can also serve as a way to raise awareness about our heritage and importance of its public availability and perservation.

Digitization of cultural heritage enabled people to access digital material across the globe, regardless of their current location. To help and support people during the COVID-19 pandemic, most of the museums have opened their „virtual doors" and allowed access to their digital material for free. Digital material includes texts, databases, still and moving images, audio, graphics, software and web pages, among a wide and growing range of formats [4].

2. Digitized cultural heritage through cultural institutions

In the time of modern history's gravest health emergency, digitization of cultural heritage gave the world the opportunity to access some of the most significant history items. As mentioned, many institutions of culture have opened their "virtual" doors for public, and closed the physical ones. As for museums, many of them allowed virtual tours of current exhibitions, but some of them also added additional content for web visitors.

British museum is one of the most-known museums in the world. It is the world's first free, national, public museum, opened in 1759 [5] and it contains a large collection of historic items. Before the pandemic, the museum already had its online collection, but now it got bigger. With the hope that their collection can help in the time of COVID-19 pandemic, British museum announced that their collection contains 4.5 million objects and 1.9 million images, available through a [Creative Commons 4.0](#) license[2]. Out of this number, 280.000 items are new, and there are new items yet to come [6]. Also, British museum did a revamp of online collection, so now it is possible also to zoom some items of the collection and to see details that are maybe not possible to see with bare eye. At the official museum's website, you can browse different items (in 2D) from collections – drawing, painting, photographs, statues, etc. 3D items are also available, but currently, there are only 250 of them [7]. Knowing that, it is much better for visitors to have a 3D viewing option, because it enables a visitor to rotate an object and see it from different angles. The number of available 3D objects will increase. For each item in online collection, you can see range of information – period, production data and place, findspot, material, technique, dimensions, but also curator's comments and exhibition history. The collection contains all of the most popular and significant items – The Rosetta Stone[3], Easter Island statues, The Elgin Marbles[4], etc.

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[2]   Creative Commons 4.0 license allows you to share and adapt the material, under the terms of attribution and noncommercial usage. https://creativecommons.org/licenses/by-nc-sa/4.0/

[3]   The inscription on the Rosetta Stone is a decree passed by a council of priests, one of a series that affirms the royal cult of the 13-year-old Ptolemy V on the first anniversary of his coronation. The decree is inscribed on the stone three times, in hieroglyphic (suitable for a priestly decree), demotic (the native script used for daily purposes), and Greek (the language of the administration). The importance of this to Egyptology is immense. https://www.britishmuseum.org/collection/object/Y_EA24

British museum contains items from different cultures and periods in history. It contains items from Serbia and Balkan area – coins, pottery, jewelry (figure 1), musical instruments and national elements (scarfs, belts, coats, etc.).

Even though there is no public information about the number of virtual visits, it is reported that the museum is experiencing "huge surge in traffic to its website since it closed its doors" [6].

Figure 1 - Silver armlet, from the Late Medieval/Byzantine period (production date between 13th and 14th century AD). Found in Banat, Serbia.
https://www.britishmuseum.org/collection/object/H_1860-0609-7

National Museum of Serbia is the oldest and largest museum in Serbia, established in 1844. The museum building is itself established as a cultural heritage monument. The museum contains a significant and important collection of historical and cultural items. Regarding the COVID-19 pandemic, the museum was closed for public after declaring a state of emergency in Serbia. After more than one month of closure, it has been reopened. During the closure time, the museum created a virtual tour for all "online" visitors. The tour consists of two parts – museum entrance (with caryatides, Figure 2) and a special exhibition – *Ivan Meštrović (1883-1962), Sculptures from National Museum collection*.

Ivan Meštrović was the most prominent Yugoslav sculptors. He studied at stonemason's workshop in Split, and later at the Academy of Fine Arts Vienna. Most of his early works themed in the spirit of Secession, and later on, reviving national myth – Kosovo cycle, 1908-1910. He is well known by some of his most popular work – Victor monument (Kalemegdan fortress, Belgrade), Monument to the Unknown hero (Avala, Belgrade), Monument of Gratitude to France (Kalemegdan fortress, Belgrade),

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4   The Elgin Marbles are a series of friezes and sculptures that were originally part of the Parthenon at the Acropolis in Greece. There is an open dispute between Greece and Britain, since the Greece requested that British Museum return Parthenon items to Athens.

Mausoleum of Njegoš (Mount Lovćen, Montenegro), etc. The national museum collection represents a significant part of his work that testifies to its earlier period connected with a part of the opus inspired by the tragedy and heroism of the heroes sung in Serbian folk poetry. These sculptures were made in a wide range of stylistic features, from realism, through reminiscences of ancient plastic, then full, tense, once baroque-energized, expressive vital forms [8]. This virtual tour (Figure 3) was seen over 100.000 times [9], which is a great result bearing in mind that after a big reopening event in 2018, the museum had over 150.000 visitors in a period of six months [10]. Thanks to digitization, this exhibition is fully available to everyone with internet access. Visitor can move through exhibition room and enjoy in virtual tour. This way, visitor can truly have a real museum experience.
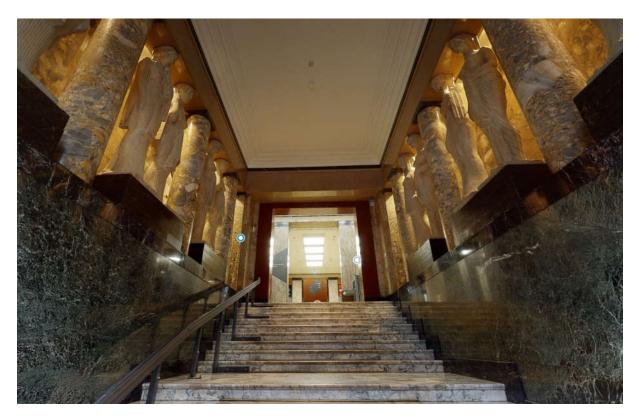

Figure 2 - Caryatides (marble) at the entrance on the National Museum of Serbia. Print screen from the virtual tour. **http://www.narodnimuzej.rs/virtuelnimuzej/**

Additionally, the National Museum of Serbia celebrated its 176th anniversary with publication of three new online exhibitions, all available in VR5 mode – Trebenište6, Vlaho Bukovac7 and Paja Jovanović "Balkan images"8. The pandemic, as

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5   VR – virtual reallity is the term used to describe a three-dimensional, computer generated environment which can be explored and interacted with by a person. That person becomes part of this virtual world or is immersed within this environment and whilst there, is able to manipulate objects or perform a series of actions https://www.vrs.org.uk/virtual-reality/what-is-virtual-reality.html

6   Trebenište VR exhibition is available on National Museum of Serbia website (http://www.narodnimuzej.rs/virtuelnimuzej/), and also on vrallart digital platform (https://vrallart.com/vr-exhibitions/em/trebeniste/)

7   Vlaho Bukovac VR exhibition is available on National Museum of Serbia website (http://www.narodnimuzej.rs/virtuelnimuzej/), and also on vrallart digital platform (https://vrallart.com/vr-exhibitions/em/vlaho_bukovac_izabrana_dela_selected_artworks/)

bad as it sounds, encourages the museum to improve its online presence and create these virtual exhibitions. It is important to emphasize that these exhibitions are premiered in virtual reality.

Trebenište is created in tribute to one hundred years since the discovery of Trebenište necropolis (in the nearby of Ohrid lake, North Macedonia). The importance of the exhibition lies in the fact that this is the first time that discovered items from archeological site are put together at one place. All the items are originally kept in museums in Bulgaria, North Macedonia and Serbia. As mentioned, this exhibition is premiered as a virtual one. Standard museum exhibition was planned for opening, but due to COVID-19 pandemic, it was postponed.
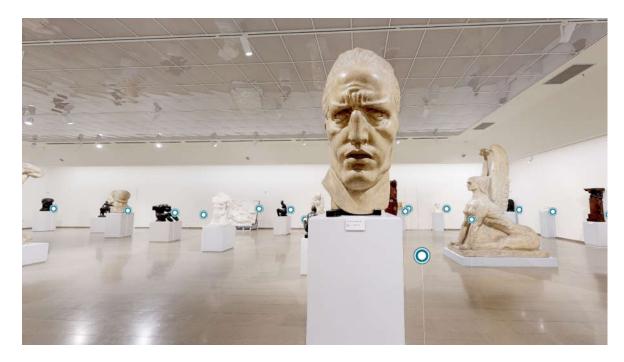

Figure 3 - Ivan Meštrović exhibition. Head of Miloš Obilić, plaster, 1908. Print screen from the virtual tour. **http://www.narodnimuzej.rs/virtuelnimuzej/**

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[8]   Paja Jovanović's "Balkan images" VR exhibition is available on National Museum of Serbia website (http://www.narodnimuzej.rs/virtuelnimuzej/), and also on vrallart digital platform (https://vrallart.com/vr-exhibitions/em/pavle_paja_jovanovic_pictures_of_the_balkans_slike_balkana/)

Figure 4 - Pavle Paja Jovanović, Rooster fight (Borba petlova)
https://vrallart.com/art/borba_petlova/

Vlaho Bukovac (1855-1922) was a Croatian painter, best known for his paint a nude Une fleur (A Flower). The museum contains twenty-three works of the painter and all of them are exclusively available only in virtual exhibition. The collection contains, among others, royal portraits of Queen Natalie Of Serbia (Natalija Obrenovic), King Alexander Obrenovic, but also, it includes himself portraits.

Paja Jovanović (1859-1957) was one of the most prominent Serbian painters, typical representative of academism. He painted more than 1.100 painting, among which is famous paint Migration of the Serbs, but also a number of portaits such as the fourteen portraits of Emperor Franz Joseph I of Austria. The exhibition contains more than twenty paintings, and "Rooster fight" (Figure 4) is one of them.

Belgrade Philharmonic Orchestra (BPO) had its first concert in 1923. Since early 1900s until today, BPO has become the leading orchestra in the Balkan region. One of the recent achievements of the BPO is the largest ever open-air classical music concert in the Balkans, held in 2017 in Belgrade. The event was attended by more than 30.000 people. Due to COVID-19 pandemic some of the orchestra's performances in the 2020 season were canceled. Instead of traditional season, BPO redesigned it to – Online season. They have prepared a variety of contents which is available via their website, or social networks [11]. Online season includes variarity of content – audio materials (soundcloud links), video materials (youtube links, from previous performances), and also quarantine blog posts from the musicians.

3. Cultural heritage access through digital platforms

Digitized heritage doesn't necesserally need to be available only through cultural institutions. There are also digital platforms that combines available data and merge them into one source, from the visitor's perspective.

Google Arts & Culture is an online platform that combines digitized data from different sources (partner cultural organizations) and making it accessible via URL address[9], or mobile app. This platform allows visitor to go on virtual tour through museums (including more than 2.000 museums from 80 different countries, e.g. Rijks museum - Amsterdam, Museum Island – Berlin, Nikola Tesla Museum - Belgrade), listen to orchestras (e.g. quarantine performances of La Scala, Milan), see sites (e.g. St. Mark's Basilica, Palace of Versailles), 360 degrees videos, etc.

This platform allows visitor to search between 266 3D objects. The variety of objects is very big – there are models of ancient temples, statues, building and monuments. For example, a person can visit the hall of Mirrors, from Palace of Versailles (Figure 5), or view a 3D model of Brandenburg gate.

Google Arts & Culture also allows visitors to access data from Serbia. Thanks to data gathering, a visitor can access online exhibits from institutions that are connected with this platform. For example, visitors can attend online exhibit *Traditional Jewelry and Dress from the Balkans,* provided by the British Museum. Also, visitors can attend exhibits provided by the Serbian's museums – *The Beauty of Traditional Folk Costumes in Serbia (Ethnographic Museum, Belgrade), The Genius of Nikola Tesla: It Runs in the Family (Nikola Tesla museum, Belgrade), etc.* For each exhibition, visitor can see images with textual description. Also, if exhibition combines items from different countries, there is a small description of each country.
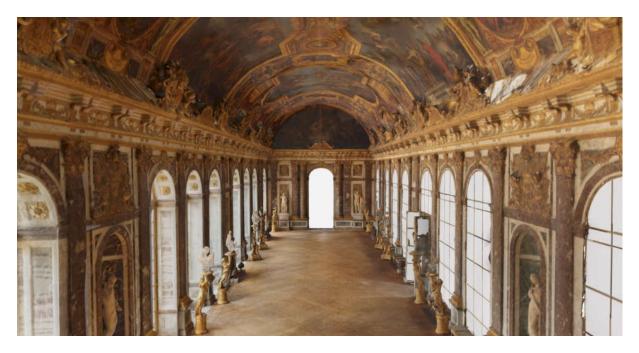

Figure 5 - The hall of Mirrors, Palace of Versailles. Print screen from 3D model, available at
https://artsandculture.google.com/asset/the-hall-of-mirors-palace-of-versailles-google-arts-culture/yAGCMVuezhSy8A

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[9]   https://artsandculture.google.com/

3D virtual tours in Serbia – even though some localities in Serbia are not physically available due to current pandemic, there is a way to enjoy them. Thanks to digitization that already has been done, it is possible to go for a walk through Golubac fortress (Figure 6), Petrovaradin fortress, Bač fortress, etc. Not only fortresses are available in 3D tours, but also Viminacijum, a well-known archeological site. Many of those sites are repaired in the last few years, or reparation is in process.

Figure 6 - Golubac fortress, 360 view. Print screen from **https://kompaskazesrbija.rs/3d-virtualane-ture/**

4. Conclusion

The COVID-19 pandemic changed our lives, but also our thinking about digitization and its importance. In the time of massive "lockdowns" it became even more important to have an internet access, and the content to access to. Many people have used digital content for the first time in everyday life – to pay the bills, or to "go to the market". Also, many businesses tried to orient to digital market. A similar situation happened for the cultural institutions.

The pandemic showed us the importance of being digital-ready. Digitizing cultural heritage, among the preservation, must increase availability of it. Today, it is shown that there are not enough items that are available in its digital form.

From the perspective of culture, digitization gave us the possibility to access important cultural and historical monuments even during the pandemic. Number of visits on digital platforms suggests that there is a big public interest to access these data. Not only that it is important to continue with digitization, but it is even more important to include improvements of the current digitization processes. For instance, it would be expected that all real-life objects are digitized into 3D form (e.g. not to digitize sculpture as a 2D image). Additionally, future generations will probably expect more from virtual tours, for example, for all tours and objects to be available in VR form.

Due to COVID-19 pandemic, it is easier to see the importance of digitization in everyday life. But, nevertheless, digitization is a process that is constantly improving. The question that should be asked is – is there anything that we can learn from this and can we somehow contribute for a better tomorrow? The COVID-19 pandemic is something that future generations can learn from. The digitization of all the publicly available information about the COVID-19 can enable creation of databases, which could prove invaluable if another pandemic emerges in the future.

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mstojicevic@gmail.com