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ARCHIVAL SCIENCE IN STORMS

Abstrakt

In this paper the author present views on the possibilities of coexistence between the rapid development of the information society and the archival theory and practice, or archival science, which today is defined as independent, academic, interdisciplinary and multidisciplinary science. The paper deals with the definitions of archivistics and draw attention to extensive literature, and in some segments it also touches on definitions available on web portals, social media, etc. Today, archivists are facing questions that will need to be answered; how should we respond in this day-to-day storm that bumps us from digitalization, GDPR, blockchain, artificial intelligence and maybe more. At the end it mentions the fact that archivism will only develop if it has a quality academically qualified staff, which should provide such a study program in the course of full-time, independent study of archivists, so that graduates will be able to handle all archival professional, technical and scientific research areas. Archival founding countries must also provide funding for the education of archivists at all three levels. Only with a Bachelor of Archivists, Masters of Archival and Documentation and Doctor of Archival Sciences degree archival science will be developed in the same way as other sciences.

Keywords: *definitions of archival science, archival theory and practice, digitization, GDPR regulation, blockchain technology, artificial intelligence, states' obligations, education of archivists.*

L'ARCHIVISTICA IN TEMPESTA

Sintesi

In questo articolo l'autore presenta opinioni sulle possibilità di coesistenza tra il rapido sviluppo della società dell'informazione e la teoria e la pratica archivistica, o archivistica, che oggi è definita come scienza indipendente, accademica, interdisciplinare e multidisciplinare. Il documento tratta delle definizioni di archivistica e attira l'attenzione su un'ampia letteratura, e in alcuni segmenti tocca anche le definizioni disponibili sui portali web, sui social media, ecc. Oggi gli archivisti si trovano ad affrontare domande che dovranno essere risolte; come dovremmo rispondere in questa tempesta quotidiana che ci colpisce con la digitalizzazione, GDPR, blockchain, intelligenza artificiale e forse di più. Si cita infine il fatto che l'archivistica si svilupperà solo se ha personale di qualità accademicamente qualificato, e che dovrebbe fornire un programma di studio nel corso di uno studio indipendente a tempo pieno degli archivisti, in modo che i laureati siano in grado di gestire tutti i settori di ricerca archivistica professionale, tecnica e scientifica. I paesi che fondano un archivio devono anche finanziare l'istruzione degli archivisti a tutti e tre i livelli. Solo con un Bachelor of Archivists, Master of Archival and Documentation e Doctor of Archival Sciences l'archivistica sarà sviluppata allo stesso modo delle altre scienze.

Parole chiave: *definizioni dell'archivistica, teoria e pratica archivistica, digitalizzazione, GDPR, blockchain, intelligenza artificiale, obblighi delle nazioni, formazione degli archivisti*

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ARHIVISTIKA V VIHARJIH

Abstrakt

V prispevku predstavljam moje poglede na možnosti sožitja med hitrim razvojem informacijske družbe in arhivsko teorijo in prakso oziroma arhivsko znanostjo, ki jo danes definiramo kot samostojno, akademsko, interdisciplinarno in multidisciplinarno znanost. Ukvarjam se z definicijami arhivistike in opozarjam na obširno našo in tujo literaturo ter se v nekaterih segmentih dotaknem tudi definicij, dostopnih na spletnih portalih, socialnih medijih ipd. Arhivistika se danes srečuje z vprašanji, na katere bo potrebno odgovoriti, in sicer; kako se naj odzovemo v tem današnjem viharju, ki nas premetava od digitalizacije, GDPR-ja, blockchaina, umetne inteligence in morda na še kaj. Ob zaključku prispevka pa navajam dejstvo, da se bo arhivistika razvijala le, če bo imela kvalitetno akademsko usposobljen kader, ki naj v okviru rednega, samostojnega študija arhivistike zagotavlja takšen študijski program, da bodo diplomanti usposobljeni reševati vsa arhivsko strokovna, tehnična in znanstveno-raziskovalna področja. Države, ki so ustanoviteljice arhivov, pa morajo zagotoviti tudi finančna sredstva za šolanje arhivistov na vseh treh stopnjah. Le z diplomiranimi arhivisti, magistri arhivistike in dokumentologije in doktorji arhivskih znanost, se bo arhivistika znanost razvila v enakovredno drugim znanostim.

Ključne besede: definicije arhivske znanosti, arhivska teorija in praksa, digitalizacija, uredba GDPR, blockchain tehnologija, umetna inteligenca, obveznosti držav, izobraževanje arhivistov.

1 INTRODUCTION

Nowadays, when archival science and with it also the archival theory and practice found itself in "storms", I would like to present some of my views on the possibility of co-existence between the rapid development of the information society and present and future digitalization as well as any other changes announced by researchers. These are already appearing in archival theory and practice in some segments and are being introduced into the elements of archival science, which today is defined as an independent, academic, interdisciplinary and multidisciplinary science. (Klasinc, 2017-1)

When comparing the definitions of archival science that we encounter, we can conclude they are not particularly different one from another:

- Archival science is a science that deals with archival theory and practice.
- Archival science is a science that deals with the formation of a fond with archival records, which are selected from current records, with wholes, convolutions, writings, arrangement for accessibility, legal regulations, standards, organization of work in archives, fieldwork with records creators, creation, learning and methods that justify the operation of the archives.
- Archival science is a science that examines individual documents, records management, legacies, personal fonds, collections (of various records creators), and is intended to prepare archival records for use and publication.
- Archival science is the science that investigates archival records, arranging of archival records, records management, preservation and maintenance of archival records; it deals with the importance of archival records for historiography, for proving rights, etc. Archival science takes care of archival records that is important for the state at all levels, and takes care of archival records as a written cultural heritage. (Pears – Moses, 2005)

From the extensive literature I have selected a work for this contribution; Eugenio Casanova, *Archivistica*, Sienna 1928/24 where is said that: "Archival science is a science that studies archival theory and practice, * archival science is a science that studies archival technique, * archival science is a science that studies law, * archival science is a science that studies history of archives".

Several definitions of archival science are emerging around the world. In France, it is divided into general archival science, special archival science, archival buildings and equipment, and functions of the archives. In Germany, the German theorist Theodore Schellenberg stands out defining the function of archival science in relation to modern archives (a translation of his work was also published in 1968 in Belgrade).

How differently archival science is defined we can see by the insight into the classification of archival science within the scope of planned research by the Agency for Research Activity of the Republic of Slovenia. Or when we look at the the positioning of archival science as part of research projects that place archival science in different places. Harmonization of these conditions awaits us in the coming years.

2 DEVELOPMENT OF ARCHIVAL SCIENCE

We must acknowledge our professional mistake because we have not been able to rank archival science as an independent science in the past decades, even though it has all the conditions for it. In the 1980s, archival science or better, our archival practice, took the initiative in the field of introducing information technologies into the processes of archival professional work, seeking to establish scientific-research relations between librarians, informatics and archivists. Later, librarians took the initiative and achieved a major advantage over archives in this area. In my article *Compatibility between Archivism and Informatics*², years ago, I gave a vision of the development of archival science, archival practice, archival professional work in the field of information technologies, and at that time pointed to the fact that we cannot talk about certain information science within archival science, but only, that archival science in its research introduces elements of information science into archival theory and practice, which enables the carrying out of archival professional tasks on a high professional basis, but always on the roots and springs of archival theory and practice, hence the established principles of archival professional work, whether we are dealing with classic archival records in this professional work or whether the records are written on modern media.

If we look at the situation where the archival science as a subject appears in various study programs, we can be satisfied with these data, but they indicate that the definition of independent academic, multidisciplinary and interdisciplinary science is not being accepted. The subject of archival science (with different content, form and purpose) often appears together with the study of history, librarianship, museology, auxiliary history in the faculties of administration and rarely in the faculties of social sciences and the like. If we connect archival science with current records, in the broadest sense of the word, we can combine archival and current records in the subject of records at study programs or faculties of architecture, mechanical engineering, economics, law, and more. I did not find an analysis of records in the listed institutions as part of the study program, but I did meet individuals who alerted me to the issue of documenting e.g. architectural services / creations, plans in mechanical engineering, defining documentation in economics (financial accounting records) and in law, where it would be appropriate to analyze preserved archival records at different levels of courts from 1852 onwards.

2 Original title: »Kompatibilnost med arhivistiko in informatiko«.

In many cases, the relationship of archival science to other sciences will need to be re-investigated and placed within the framework of cooperation in scientific research projects, taking into account current experience and linking research to preserved archival records in professional archival institutions. Personally, I share these relationships in areas such as determining the retention periods for archival and current records or compiling a list of archival records as the written cultural heritage of any records creator. In the process of creating such a list, practice in the past has shown that it is almost impossible to set quality retention periods for archival records unless an expert from different fields of creators is contacted. This is important, for example, regarding retention periods of records of legal institutions, where it is necessary to obtain the opinions of experts in the field of law or if we are talking about archival records in the field of construction or pharmacy, we will ask experts in these fields for an opinion. These relationships are, of course, the result of professional work and development, as well as of the care of the preservation of archival records as a written cultural heritage.

Another relationship between different sciences opens with scientific research work related to modern information technologies eg. introduction of computers in the processes of archival professional work or lately the over-influence of computer science on archival professional work. In these rapid changes provided by information technology, archivists must pay particular attention to the fact that archival science, archival theory and practice must be reflected in the actual care of archival records, which is reflected in ninety-nine percent of archival records that are preserved in archives and are on a classic medium ie. paper. This percentage, of course, may be different for individual archival institutions. (Klasinc, 2017)

3 ELEMENTS OF THE HISTORY OF ARCHIVAL ACTIVITY

If, in my article on the compatibility between archival science and information science, I defined this relation only to information science, today I can claim that archival science can be put in a compatible relationship with any other science, including the space research agency that creates archival records, of which they are unaware and archivists must note them. It is the same with the records of health care, where it is also necessary to draw attention to the fact that the archival records of health care are important, not only for the immediate identification of the problem, but also for a longer period of time for the development of health care.

Modern archival science and the presentation of the importance of archives has been established over the last two hundred years. In the history of archival activity, we can observe the development of archival legislation. Since from the first forms of the law on archives to the present day, in the modern law on current and archival records, archives have gained their legitimate significance in societies. We can critically assess that the adopted law on archives does not mean that archives automatically gain their importance, because this importance is acquired only through serious professional work, the establishment of archives as cultural scientific pedagogical institutions within a certain area of competence or, if it is a national archive throughout the country.

Insights into the degree of importance of archives provide us with a knowledge of the situation, which is different in terms of geographical space and in some environments the importance of the archive is set very high, and somewhere very low. An insight into the cultural programs might confirm the finding of the extent to which the proposed cultural programs in the applications for funding were approved and

which were accepted for funding and why. There is certainly too little attention to research on these cultural programs. It is almost certain to claim that many of the submitted programs prepared by the archives when applying for funding are deductible. However, it can be noted that cultural programs provide funding to archives for the preparation of exhibitions, anniversaries of archival institutions, the issuing of guides, inventories for the entire archival institution as well as inventories for individual archival holdings. It would be interesting to do an analysis of these cultural programs that archives seek to gain relevance in the environments where they operate. Of course, the importance of archives should also be sought in answering the question of how archives are positioned at all in the space, first within the cultural institutions, then the general efforts of the society for the development of the environment, and how the archives ensure that they are treated equally with other cultural institutions. We know from practice that in the city guides, where all other cultural institutions (museums, galleries, theaters, libraries, etc.) are listed, it is very rare to find a cited archive.

As an independent academic, multidisciplinary and interdisciplinary science, archival science today is in an unenviable position during the storms caused by the emergence of new information trends and knowledge, when archivists must try to relate these phenomena in a certain way to archival theory and practice. Although we can say that there are no more problems with classical archival science, which is not true, but these problems are somehow manageable in relation to the practice and the work we are facing. Present archival science is being tossed around by the storms of digitalisation, the GDPR regulation, blockchain technology and artificial intelligence, and the state's concern for archives. (Klasinc, 2018)

4 DIGITIZATION

Even closer, and perhaps with a little more knowledge, archivists handle the digitization that has been discussed at conferences several times. This is mainly about two positions. The first is the digitization of existing archival records for several purposes. Most important is the one that speaks of making digital archives easier to access, while at the same time providing some security by not giving the users originals for use, but only in digital form. To the extent that the results of digitization are placed in electronic districts, social networks, or on the websites of individual archives, we attach great importance to archival records, and in particular free access to records. Aside from that, I leave all the highly professional evaluations of digitization and the implementation of digitization processes, as well as a technical description of the processes. I would just like to point out here that it is necessary to provide solutions regarding the maintenance and care of digital records, and above all the harmonization between classical and digital thinking in archival theory and practice. The long-standing practice that I have, confirms the thought of Michel Duchein from many years ago that, in archival theory and practice, of course, changes need to be monitored and accepted, but they must be set at a high scientific and research level. The fact is that archives, archival records, and the results of work are so traditional that they should change as little as possible. (Pejović, 2017; Allegrezza, 2017; Doan, 2017; Larin, 2017; Kruse, 2017; Popovici, 2017; Rybakou, 2017; Škoro Babić, 2017)

5 GDPR REGULATION

Dr. Pavlina Bobič, Research Associate at the Department for Archival science at the AMEU ECM, presents the Guide on the Protection of Personal Data for Archival Services in the text below.

"The guide is intended for public and private institutions that hold archives, documents that have been selected for permanent retention. It is not intended only for national or state archives, but also provincial and municipal archives, museums, libraries, foundations, and other public and private institutions that keep lawful archives.

The guide provides basic information and practical solutions for archivists who, in their work, face particular challenges in terms of enforcing GDPR provisions. It should be noted that the Guide deals solely with the processing of personal data appearing in archival holdings. The GDPR aims at protecting the data of still living persons, but also has to comply with national laws that can protect the personal data of already deceased persons.

GDPR is part of EU-wide binding legislation, but allows Member States exceptions in specific areas. The first of the exceptions follows the principle of "the purpose of archiving for the public good" and the second the meaning of "scientific and historical research". Archivists are required to review national law in the light of European directives.

A key principle of GDPR is "data minimization". Personal data can therefore only be collected and processed if - and when - it is really needed. At the same time, data must be retained for as long as is necessary to achieve the purpose of their archiving. Allowing exceptions at national levels is actually essential for the operation of the archives and their need for "permanent storage" of records. Resources are thus permanently stored to assist in the promotion of civil (human) rights and to open up new research areas for historiography. The archives are also obliged to publish the basic criteria for the selection of documents for permanent storage and to explain their decision to preserve those holdings containing personal data.

Archiving personal information does not mean that it is freely available to the public. Namely, each of the national legislations lays down rules on the accessibility of documents containing personal information about an individual's health, sexuality, racial or ethnic origin, religious or political beliefs, and affiliation with political parties and trade unions. The same applies to documentation of an individual's criminal charges and misdemeanors. The GDPR does not change the time period set in countries for the closure of funds with the above information, but sets out the rules under which the data subject is entitled to access them. If personal data becomes available but there is a possibility that the person is alive, then the archive should prevent further processing of the data if it could harm the dignity of the person. Thus, the publication of such information online or in archives is not permitted; however, the "pseudo" minimization of resources is allowed, provided that the archives provide the record value of them.

The GDPR also does not change the right to freedom of information (under national law) nor does it change the right to freedom of expression. To this end, researchers who publish the results of their own research in their work can be legally enforced by GDPR exemptions.

Finally, archives must ensure the security of personal data and clearly assume professional standards in all possible risks. The latter should be evaluated especially when archives decide to digitize resources and aids containing personal information, in particular medical and court records. The Data Protection Officer is a legal expert for archives, usually employed by the institution in question, not by individual archives.

In professional archives, by analogy, archivist deals with the problems of archival professional work, and does not omit the professional content and information that we deal with in relation to information aids designed to bring us to information about archival material and information. in the archives. "

My comment on the GDPR regulation is that archivists in Europe should be able to exclude from GDPR all professional archival institutions and thus all archival records held as cultural monuments by archives, as well as other institutions that preserve archival records in a professional manner and refer them to national archival laws.

6 BLOCKCHAIN TECHNOLOGY

Some time ago, as an archivist, I was invited to a circle of computer scientists who enthusiastically introduced me to the revolutionary technology of the future called blockchain. I was referred to as one of the most important in the field of Internet technologies and it is equivalent to the discovery of the World Wide Web. If their rationale caught my eye, this refers to the information that this blockchain technology allows digital data to be transmitted without being able to copy it. Moving on from the discussion of Bitcoin digital currency here, since I am not interested in this, I can identify four positive facts from an archivist's perspective, which are:

1. that we are talking about digital data, protected digital data, without the possibility of copying,
2. with the Internet, digital records have become more readily available and easier for use,
3. by using blockchain technology it cannot be copied and reproduced uncontrollably,
4. that based on this blockchain technology, each copy is exactly the same as the original.

The essence of blockchain technology needs to be discussed by experts and explain to archivists in detail how each transaction adopts its block and algorithm, which stand in line with each other and together form a chain of blocks that bring information about what is happening with the digitizer. In the process, they receive a digital "fingerprint", which is used to verify the authenticity of the data. Here, I leave open discussion between archivists and computer scientists about the fact that information is stored by users themselves, and they always have separate algorithms that translate the authenticity of the input and output blocks, thereby establishing universal trust. Experts warn us that blockchain technology will in the future affect financial and legal processes such as business infrastructure, contracting (archival records) and performing financial and other transactions.

ARTIFICIAL INTELLIGENCE

Without being aware of the archivists, we encountered this artificial intelligence at a time when we were beginning to enter computers into archival practice. More than artificial intelligence, it is appropriate to refer to machine intelligence as it is used for intelligence machine, the closer we are to natural intelligence used for humans. We look for archival links within computer science that defines, for example, the exploration of artificial intelligence as the study of some sort of intelligent agent. These are devices that perceive the environment in a way that enables and increases the likelihood that we will successfully achieve our goal. Putting this into the archivist, these definitions are familiar to me. We have archival material that we provide to the user to learn from it, to create new knowledge or to pass it on. It can, however, learn or create new skills to create specific goals and tasks. Among the definitions of the field of artificial intelligence, archivists are only interested in some, such as visual intelligence, because it is the recognition of faces and shapes, etc., and rational intelligence within artificial intelligence that leads us to databases. Here we also bring archivists to the sub-field of artificial intelligence called computer vision,

because with the help of computers e.g. lets you see objects, parts of continents, etc. Under the field of artificial intelligence that can be accepted by archivists are methods of acquiring knowledge from data, in English knowledge discovery and databases, and mining (using archival records) from data on archival records or from archival records (data mining). Among the goals of artificial intelligence, archivists find a recommendation on how to increase the usability of computers. Leaving aside all the other positive developments in artificial intelligence, we should not be surprised by the different aspects.

Archivists should seek in their analysis of experts those positions that they can use in archivists, e.g. large amount of machine data, data visualization, intelligent knowledge management, etc. Let the thinking of the archivists regarding artificial intelligence be left to the whirlwind we are witnessing. Let us not be surprised by the challenges of archivists, and there will be nothing wrong with having these complicated processes and even more incomprehensible definitions of a sense of inferiority. This should not stop us from finding positive answers to these problems, which are neither the first nor the last.

7 Care of states for the archives The question of how many countries around the world care about archives is difficult to answer. One more the other less. When organizing independent study of Archivistics at all three levels at Alma Mater Europaea - European Center Maribor, I asked myself the following question: Why does not the state, which takes care of the archival building, the equipment of archival warehouses, the employment of archivists and cultural programs, also provide financial resources for the education of professional archival professionals, such as archivists, masters of archivists and documentaries, and doctors of archival science. I am still waiting for an answer, while recording practices that are different around the world, most notably the different obligations of states towards archives. We know the obligations of archives to the states because the archives provide the state with useful documents, such as administrative, judicial, urban and other documents, which are necessary for the state to function normally. Archives have a duty to the state primarily by preserving the archival records of all valorized creators. The obligations of the state archives are also great for the demands of the citizens, since those from preserved archival records can confirm their rights. Archives also have special obligations towards science, where multidisciplinary and interdisciplinarity are evident in preserved archival records.

Archivistics as an independent academic science also relies on some links that raise the image of archives, as some sciences are closely related to preserved archival material, and these links are most common with historians, historical auxiliaries, diplomats, paleography, sphragistics, heraldry, vexillology, archeographers (principles of theory and work in publishing archival work), genealogy, chronology, information science, documentology (data protection) and the like. All of the above and many other links are based on the use of archives from archives wherever they operate. For this reason, we place the importance of archives above the stated sciences and sciences, because the results of their research are almost entirely related to the results of using archival records.

The fact is that we can only talk about a regulated archival service when it is fully cared for by the state. It is the state that proclaims the archival material a cultural monument, protects it by law, and is obliged to take care of it. We are familiar with descriptions of how archives work and how archives should work, we also described the fact that archival records are also stored in institutions which are not directly related to the state. That is why we must be interested in why countries decide to care for their archival records. Such questions can be answered on the one hand by knowing the history of the work of archives over the last two hundred years and, on the other hand, by citing current archival legislation. In the Klasius system and in many international classifications, lists of professions and research systems, there is simply no archival science.

It would be interesting to do a survey to find answers to the following questions in the general public:

Do you know the archive?

Do you know what archival science is?

Do you know where to look for records you are interested in?

Do you know the difference between libraries, museums and archives?

Do you know who the archivist is and the like.

I could answer some of the questions, not on the basis of a survey, but on the basis of the knowledge I have gained in over fifty years of practice.³

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3 Glejte tekste v »Arhivi v službi človeka, človek v službi arhivov«, Zborniki referatov, Izdala Arhivistika na AMEU ECM. Maribor 2017, 2018, 2019.

SUMMARY

I argue that archival science is an independent, multidisciplinary and interdisciplinary science. We need to accept this fact if we want the archivist to become better established in the theory and practice of archival professional work as well as in his study and scientific research work. In this way, archival science will also establish itself as an equivalent science to other sciences. Of course, we come across several definitions of archival science in many professional contributions or in professional literature, and these definitions are not fundamentally different. In all definitions, elements of archival editorial work, and more recently elements of information and documentation solutions, have been traced, but these do not affect changes in the original tasks of archival theory and practice. We offer archival sciences related to scientific research work and content and information stored in various holdings in professional archival institutions or specialized archival services, which may be entrusted with their own retention of archival material (university archives, television, special archives of religious communities, etc.) We use information technology to deal with these relationships, and archivists must always be reminded of the fact that archival science, archival science, archival theory and practice must reflect a genuine concern for archival material in professional archives are still over ninety percent. This symbiosis between classical and modern archivism is manageable. It requires mutual professional tolerance and, above all, respect for the roots of archival science. In these storms, archivistics today face digitization, GDPR regulation, blockchain technology and artificial intelligence and the role of countries. Digitization is already well-versed in archival theory and is generally well-managed. Currently, some questions are raised regarding the implementation of the GDPR regulation in the archives. My fairly, perhaps incomprehensible, requirement is that GDPR should be exempted from professional archives simply because archival material in national law is defined as a cultural monument that archives should be used for research purposes without restriction. In the field of blockchain technology, archivists can see two positive things. One is the connection of digital data and the other is the protection of digital data. Of particular interest is the activity of blockchain technology in the area of information transfer and the presence of entry and exit blocks and the establishment of universal trust such as business infrastructure, contracting archival material and eliminating financial and other transactions. We met archivists with artificial intelligence, unaware of the introduction of information technology at the time when archives were introduced, and when computers began to be used as archives for the use of archives. In doing so, researchers create new knowledge, create new insights, and create specific goals. Archivists may be interested in two sub-artificial intelligence within artificial intelligence, the so-called visual intelligence and rational intelligence, because they lead us to collect data. Among these storms experienced by archives, archival theory and practice and the archival science, countries will need to provide more attention and assistance, and to assume greater responsibility and care for archival material. Although this concern has been almost successfully addressed in some geographical environments, it is still poor in many. I must insist that the countries that set up and fund the archives also provide funding for the training of archivists.

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