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Jozef Hanus[*]*, Emília Hanusová*[**]

ARCHIVES AND LIBRARIES - POSSIBILITIES AND NECESSITY FOR PROFESSIONAL COOPERATION

Abstract:

Present situation in preservation of archival and library documents offers a lot of possibilities for effective cooperation. Large majority of their holdings is created on paper; this type of lingo-cellulosic material is the common base for necessary solution of many similar or even the same problems concerning their preservation. Despite the dominant tendency of their digitization, archives and libraries are obliged to preserve the original documents; this is one of the principal tasks of their activities and mission. Examples of cooperation among some Slovak archives and libraries in this field are provided.

Key words:

archives, library, cooperation, storage conditions, preservation

Izvleček:

Arhivi in knjižnice - možnosti in nujnost strokovnega sodelovanja

Trenutno stanje materialnega varstva arhivskega in knjižničnega gradiva ponuja veliko možnosti za učinkovito sodelovanje. Velika večina gradiva, ki ga hranijo arhivi in knjižnice, je na papirju, ki je skupna osnova za rešitve mnogih podobnih ali celo enakih težav materialnega varstva v obeh institucijah. Ne glede na prevladujočo težnjo po digitalizaciji gradiva morajo arhivi in knjižnice ohraniti tudi originalne dokumente; to je ena izmed njihovih glavnih dejavnosti in nalog. V prispevku so predstavljeni primeri sodelovanja med nekaterimi slovaškimi arhivi in knjižnicami.

Ključne besede:

arhivi, knjižnice, sodelovanje, pogoji hrambe, materialno varstvo

INTRODUCTION

Archives and libraries collections and holdings represent a unique part of the cultural heritage of human society. These institutions all over the world contain rich and irreplaceable sources of information. The preservation and management of those precious resources and accessibility to them by the public are principal responsibilities of all public archives and libraries. Preservation of cultural heritage is a summary of processes and proceedings ensuring stability and preservation against damage or destruction, treatments of damaged artifacts by conservation and restoration processes as well treatments of all documents during processing, making

[*] *Jozef Hanus, dipl. ing., PhD., Department of Archives, Ministry of Interior of the Slovak Republic, Križkova 7, 811 04 Bratislava, Slovak Republic.*

[**] *Emília Hanusová, dipl. ing., Department of Document Preservation, University Library Bratislava, Michalská 1, 814 17 Bratislava, Slovak Republic.*

accessible, using, exhibition, etc. The access to the collections and holdings on one hand and their preservation on the other hand – are two main contradictory tasks and responsibilities of all these institutions. In order to successfully fulfill this mission, well-educated and experienced experts from different fields of science are needed. Preservation of enormous quantities of different types of documents can be solved only by a thorough research as an interdisciplinary complex problem in which the role of archivists, librarians, paper scientists and their co-operation with experts from other fields of science and technology and practical end-users, conservators and restorers, is an inevitable and the only solution.

At present also the contribution and role of information technology experts is very important and brings a new dimension to traditional materials and their presentation, communication and preservation as well.

As these problems are very common for archives and libraries, many activities in the field of preservation are carried out or at least should be carried out in very close co-operation between these institutions on a national and international level.

SAFETY AND SECURITY

Safety and security are the principal requirements, which must be executed without any doubt in all archives and library institutions. However, safety and security in the broadest sense of the word can cover very wide-ranging extent of problems – from the overall and general provisions concerning location and construction of building itself, fire safety, safe and secure storage ensuring optimal climatic conditions, conservation and restoration processes, disaster planning, etc. Another field is safety and security of archival and library documents in the course of their use in search rooms by visitors but also the possible negative influence of light and climatic conditions in search rooms. The special case is their safety and security especially during transport and exhibitions. *(Official Journal of the European Communities 2003; European Commission: Report on archives in the enlarged European Union 2006; Hanus 2008)*.

STORAGE CONDITIONS

Building is the basic condition for proper functioning of any archives and library. It provides facilities for long-term storage of archival documents, their preservation and processing, all kinds of necessary treatment and enables and ensures proper and safe access to them. This is a very complex task and therefore also the different requirements for archival building which must be accomplished and fulfilled. It should be kept in mind that archive buildings are usually not uniformed and in most of the cases they are remarkable and significant architectonic constructions. Of course, the decisive aspects are needs of respective archival and library institutions. Despite the diversity of buildings there exist the common principles and rules which should be kept in their construction. This is the reason why close co-operation is unavoidable between archivists, librarians, architects, engineers, conservators and all experienced experts who can help already in planning either new building or reconstruction of adapted premises for archives or library purposes.

Problems of new buildings or reconstruction of adapted premises for archives purposes is considered also by the International Council of Archives as principal for proper development and function of archives. Creation and activities of the ICA

Committee on Archival Buildings confirm the ICA effort in this field *(Duchein 1988; Kitching1993, 2007; ICA Bibliography 2003, 2005)*.

Original activities of the International Institute for Archival Science (IIAS) Maribor – nowadays IIAS Trieste-Maribor – were also oriented in archive buildings by publishing of Modern Archives, later on by Atlanti. Especially many of the first numbers of publication Atlanti – which was celebrating last year its 20th anniversary - are completely devoted to archive buildings and technical equipments *(Klasinc 2010)*.

According to the US Whole Building Design Guide WBDG an Archives and Record Storage Building must have working environments that are safe, secure, healthy, comfortable, durable, aesthetically pleasing and be accessible. Administrative office space, archival and preservation office space, and permanent storage space for the stored archival and record materials must be accommodated. Important design issues for Archives and Record Storage Buildings are specified in *(Acker & O'Connell 2010)*. This material contains a lot of interesting information as well as useful relevant codes, standards and references.

New archives and library buildings were also presented in *(Hanus & Hanusová 2011)*.

Within the International Federation of Library Associations and Institutions (IFLA) there exists the Library Buildings and Equipment Section. The Section considers all matters concerning the design and construction for all types of libraries in all parts of the world, and their furnishing and equipment. The Section aims to collect and disseminate knowledge about buildings and equipment in order to increase this knowledge among librarians. It also aims to establish better contacts between librarians and architects by creating the conditions under which it will be possible for each of them to understand the other's language, by promoting an exchange of experiences between librarians and architects (*ILA Library Buildings and Equipment Section 2011*).

Among their important results can be assigned publication *(IFLA Library Building Guidelines 2007)*. This publication provides information and guidelines for the building planning process, whether you are planning a new public or academic library building. It reflects on fundamental issues, on new development trends and on the planning process. The library building process is seen from both the library manager's perspective as well as that of the architect and designer. Issues covered include what to consider when investigating the need for space, library design from a marketing viewpoint, green management and sustainability relating to library buildings and a layman's guide to reading plans. Other activities of this section in this field can be seen e. g. in *(Intelligent Library Buildings 1997; Libraries as Places 2004; Key Issues in Building Design 2011)*.

Archives and libraries are the same institutions from the point of their needs for quality storage conditions for keeping and long-term preservation of valuable archival and library fonds, collections and holdings. This requirement is reflected also in *(ISO 11799: 2003)* which specifies the characteristics of general-purpose repositories used for the long-term storage of archive and library materials. It covers the sitting and construction of the building and the installation and equipment to be used. It applies to all archive and library materials held in general-purpose repositories, where mixed media may be stored together. In this connection we would like to refer at least to several other useful standards in this field. The first one is *(British Standard 5454: 2000)* which provides relevant information for storage

facilities. US National Archives and Records Administration adopted a new regulation in this filed in 2002. This transmits a new policy directive establishing the internal NARA structural, environmental control, fire safety, preservation, and security standards for appropriate archival storage conditions in NARA archival facilities *(National Archives and Records Administration 2000)*.

Remarkable approach and an extraordinary solution using low-oxygen level atmosphere in new storage facilities of the British Library provides not only fire protection precautions but can considerably reduce the rate of degradation of materials. The project is also the first of its kind in the world to incorporate automated storage and retrieval systems, optimum environmental controls, and pioneering low-oxygen fire prevention technology in a single building. Although sprinklers are (usually) the preferred solution for libraries (wet books can be freeze dried), the British Library has adopted a low-oxygen system of fire prevention which sees oxygen levels kept to just 14.8% (fires can only break out if oxygen levels are at 17% and above). To support this, the building is also one of the most air-tight in the UK - the leakage rate specification is not more than 0.5 cubic meter of air per square meter of wall area per hour ($0.5m^3/m^2/hr$). The air conditioning system maintains a controlled, microbe-free climate at a constant temperature of 16°c (+/- 1%) and constant humidity of 52% (+/- 5%). The storage repository itself features insulated vertical walls with a four hour fire resistance rating and a double-sealed, thermally efficient roof *(World's leading library storage facility opens 2009)*.

PRESERVATION OF PAPER AS PRINCIPAL INFORMATION CARRIER IN ARCHIVES AND LIBRARIES

The biggest problems in preservation of archives and libraries are caused – paradoxically – by modern papers produced from the 2^{nd} half of the 19^{th} up to the recent years.

A new technology of paper-making introduced in 1850, involved paper formation in an acidic environment. This was a crucial milestone from the point of permanence and durability of paper, its degradation and preservation in archives and libraries. It is a self-degradative effect of acidic paper; "time bomb", as it is often called the limited lifetime of machine-made paper with acidic rosin sizing has been threatening the great part of the cultural paper heritage. The present state of knowledge confirms that paper degradation in the course of its ageing is the result of hydrolysis (acidic, alkaline) and oxidation of cellulose by internal agents presented in paper in close co-influence of contaminated atmosphere, humidity and light on one hand and cross-linking and fibers embrittlement on the other hand. Thermic, biological and mechanical destruction can occur as well. In most cases, however, a combination of all above mentioned effects causes degradation of cellulose macromolecule, hemicellulose and lignin which result in decrease of fibers strength, mechanical properties, creation of brittleness, fragility and color changes (yellowing, darkening) of paper.

These problems are well known to the experts from the field of preservation of archives and library paper materials. It seems that - because of large quantities of these materials - only mass deacidification can help to solve these problems.

A large scale research into the field for many years has brought an extensive knowledge in paper degradation causes, mechanisms and also in different techniques and processes in order to improve its permanence, durability and life-span *(Williams*

1981; Hendriks 1994; Strlič & Kollar 2005). Many deacidification processes have been introduced and several treatments are commercially used in a large scale *(Porck 1996; Hanus 2000; Bluher 2003; Lojewski 2010)*.

However, despite all these achievements it seems that still some problems have to be solved. Among the most serious are ranked the following ones: which of the chemical processes offered is most effective; which collection materials should be subjected to such a mass treatment; which analytical methods should be used for evaluation of deacidification processes and life prediction after the treatment; which standards should be developed, which quality standards should be defined, etc. *(Banik 2005; Banik et all. 2005)*.

It must be realized that preservation of such enormous quantity of acidic papers – does not matter whether it is kept in archive or library – represents an enormous interdisciplinary problem in which role of paper chemists and their co-operation with experts from other fields of science and technology and conservators and restorers can lead to solution of the problem. It has to bear in mind that preservation of such heritage requires also considerable financial costs.

One of the best examples of cooperation in this field is the mass deacidification in Switzerland *(Mass deacidification 2008)*. The "Papersave" technique, pioneered by the defunct company Battelle and now used by Nitrochemie Wimmis AG under license, has proved highly successful not merely as a means of conserving paper, but in terms of environmental sustainability as well.

With government financial backing, Nitrochemie set up a paper deacidification plant in Wimmis in April 2000. Owned by the Swiss government, it is the largest, most advanced deacidification facility in the world: its two treatment chambers can process between 90 and 120 tons of books and archive material a year. Thus far, more than 650 tons of books and documents have been deacidified and preserved for future generations.

The facility's two largest customers are the Swiss Federal Archives and the National Library of Switzerland, which together take up two-thirds of its total processing capacity. The remaining capacity is reserved for private customers.

POSSIBLE COOPERATION IN OTHER FIELDS

Another example for library and archives cooperation is Library and Archives Canada (LAC) created on May 21, 2004, by order of the Governor in Council, which united the collections, services and personnel of the institutions National Archives of Canada and National Library of Canada.

Canada was one of the first countries in the world to combine its national library and its national archives into a single memory institution. Library and Archives Canada (in French: Bibliothèque et Archives Canada) is a national memory institution dedicated to providing the best possible account of Canadian life through acquiring, preserving and making Canada's documentary heritage accessible for use in the 21st century and beyond. In essence, LAC's work along with that of other memory institutions builds and enriches Canada's continuing memory.

Library and Archives Canada (LAC) is part of the federal public administration and the Canadian Heritage portfolio. It reports to Parliament through the Minister of Canadian Heritage. One of its important roles includes serving as the continuing memory of the Government of Canada and its institutions by supporting accurate

record keeping ensuring transparency and accountability. As part of its mandate, LAC works closely with other archives and libraries to acquire and preserve Canada's documentary heritage in all its forms *(Library and Archives Canada 2011)*.

EXAMPLES OF COOPERATION AMONG SOME SLOVAK ARCHIVES AND LIBRARIES IN THE FIELD OF PRESERVATION

The following selected examples provide at least some information on mutual research project, however, the formal and informal cooperation among the Slovak National Archives in Bratislava, Slovak National Library in Martin and University Library in Bratislava are much broader and belong to closest and the most effective in this field in Slovakia.

A survey of historical manuscripts in the Slovak National Archives, Slovak National Library and University Library

Important historical objects in libraries and archives, i.e., documents, illuminated manuscripts, colored prints and maps suffer very serious damage as a result of the destructive effects of iron gall inks and are therefore acutely endangered. Problems caused by iron gall inks have been recognized and acknowledged since a very long time.

This research represented the first attempt in order to gain the information about the physical conditions of random selected manuscripts and documents from the three largest and the most important Slovak memory institutions – The Slovak National Library, The Slovak National Archives and the University Library.

The Slovak National Library (SNL) in Martin provides all relevant services at the national level and preserves the legal deposits from the Slovak book production. The library keeps in its collections 4.7 million bibliographic units in total; in its Archives of Literature and Art is kept about 1.5 million units from the period of the 11th – 20th centuries *(Slovak National Library 2011)*.

The Slovak National Archives (SNA) is the largest and the most important public archives in the Slovak Republic keeping totally 1042 archival fonds and collections (around 33000 linear shelving meters). As far as the historical value of documents is concerned, the most valuable part includes archival collections of ecclesiastical institutions exceptional also in a European context, comprises a unique complex of six fonds of credible locations (loca credibilia), which over five centuries served as public authority institutions on the territory of Slovakia. The biggest collection of the department of Early Fonds is the group of 98 archives of noble families and their feudal manors, which encompass archival documents range in date from the 13th to the 20th century *(SNA 2000)*. Problems of iron-gall inks in collections were presented by *(Sedlák, Hanus 1978)*.

The University Library in Bratislava (keeping about 2.5 million publications) ranks among the oldest and most visited research libraries in Slovakia. It was established in 1919 as the library for Comenius University in Bratislava with collections dating back to 17th century. In parallel to its academic purpose it has also served as the national library until 1954. Thereafter it has become an independent, universal, research library serving the general public nationwide *(University Library Bratislava 2011)*.

A survey of historical manuscripts in the Slovak Republic was carried out within the framework of the project APVV-24-034202 *Degradation of historical manuscripts and documents by the influence of transitional elements in writing inks and the project KNIHA.SK n. 2003 SP 200 280 301* funded by the Ministry of Education of the Slovak Republic.

Detail results of the survey are published in *(Hanus 2009)*.

A survey of light conditions in the Slovak National Archives, Slovak National Library and University Library

Most of archival and library documents are made from organic raw materials, largely plant fibers and animal skin. This makes them (especially paper) prone to decay and vulnerable by the environmental conditions in which they are kept. Ageing is an irreversible process that deteriorates mechanical, physical, chemical and optical properties of paper. The external factors are related to deleterious influence of the storage conditions - such as temperature and humidity, light, air pollutants, microbial attack, atmospheric oxidation, etc. *(Hanus 1987)*.

Light is one of degradation factors which deleterious effect is very often underestimated. Especially paper containing high portion of groundwood, produced since the 2nd half of the 19th century is sensitive to its influence and is expected to have a short life-time. Nowadays there is a good deal of information about the influence of light on the ageing of groundwood papers *(Heitner 1993; Havermans 1997; Bukovský 1997, 2000)*. Light induced oxidation degradation reactions are typical reactions of lignin, characteristically manifest as the yellowing of paper, producing a large amount of law molecular degradation products, a significantly increase of acidity and intensely reduced strength during 30 days of daylight ageing, even with significantly reduced portion of UV radiation *(Bukovský 2000a)*.

Therefore protection against the influence of light / radiation should be included in preventive conservation as a significant role in preservation of archives and libraries *(Ďurovič 2001)*.

Recommended values for illumination

New Slovak archival legislation deals also with protection of archival documents against light *(Vyhláška 628/2002)*. In storage areas the illumination is restricted to the time necessary for retrieval and return back archival documents. If daylight or other illumination sources emit portion of ultraviolet radiation higher than 75 μW/lm ultraviolet filters removing radiation of shorter wave length than 400 nm and decreasing the portion of ultraviolet radiation to the acceptable above mentioned value must be used. The same values are recommended also by ISO 11799 and the British Standard 5454:2000. In archives premises and exhibition areas light sources of the following intensity illumination should be used *(Vyhláška 628/2002)*:

a) up to 300 lux in search room,

b) up to 200 lux in storage areas,

c) up to 50 lux in exhibition areas.

Special requirements and specifications are set up for exhibition of archives *(Vodopivec 2004; Norme NF Z 40-010: 2002)*.

Ultraviolet radiation is for human eye invisible, its energy charge is considerable higher than of visible radiation and covers the range 380 nm - 1 nm. Its most important parts are UV-A (315 - 400 nm), UV-B (280 - 315 nm) and UV-C (100 - 280 nm). The most significant source of UV radiation is the Sun.

Light conditions in the Slovak National Archives, the Slovak National Library and the University Library were measured, evaluated and adjusted within the framework of the State programme of research and development – KNIHA.SK *(Kniha.SK 2003-2008)*.

Detail results were published in *(Hanus et all. 2006, 2007)*.

COOPERATION IN SCIENCE, RESEARCH AND TECHNOLOGY

The Department of Chemical Technology of Wood, Pulp and Paper at Faculty of Food and Chemical Technology, Slovak University of Technology covers in its educational background also problems of paper ageing and preservation. Research activities in paper permanence and durability started at the Department already in 1980 *(Hanus 1987; Krkoška 2001)*. During the last years several diploma works - completed at this Department and also at the Department of Graphic Arts and Applied Photochemistry - are devoted to problems of preservation of cultural heritage – permanence and ageing behaviour of some pulps and papers, deacidification of acidic paper, interaction of paper and printing inks, their permanence and ageing resistance, iron-gall inks and ink corrosion, etc. At present also several doctor degree students have focused their studies to problems of paper degradation, deacidification and strengthening of acidic paper documents. All these activities are results of good co-operation among the Faculty of Food and Chemical Technology, the Slovak National Archives, the Slovak National Library and the University Library.

At the beginning of 2000 formal and informal cooperation of these organizations - namely Faculty of Food and Chemical Technology, Slovak University of Technology, Slovak National Library, Slovak National Archives and Slovak Academy of Science - resulted in the State programme of research and development „Preservation, stabilization and conservation of traditional information carriers in the Slovak Republic – KNIHA.SK *(www.knihask.eu)*.

The basic aims of the project can be summarized as follows:

- increasing quality of university and continuing education of professionals for the field, including engagement of graduate and postgraduate students of chemical technology into projects on stabilization of LC carriers of information;
- concentration of the scientific capacity in the field of technology of preservation, stabilization and conservation of ligno-cellulosic (LC) macromolecular materials in the Slovak Republic;
- creation of specialized shared national virtual library and inter-active shared knowledge space on the problems of preservation of LC materials of the Slovak Republic for all project participants;
- improvement and verification of method for qualitative classification of endangered library & archives materials according to historical and technological criteria from the point of searching the possibilities for increasing of capacity and decreasing of risks during their machinery treatment;

- new knowledge and new methods proposal for preservation of library & archives materials;
- new information on indoor quality environment for long-term storage of library & archives materials.

One of the most significant and main practical results of this research programme will be establishment of an integrated complex centre for preservation, digitization and conservation of library and archives within the Slovak National Library in Martin which will serve for treatment of both – library and archives documents.

CONCLUSION

The outlined selected topics clearly show broad possibilities for close cooperation between archives and libraries. Of course, it depends on many specific varieties in different countries – from legislative background via the real competencies and activities of both institutions to the most important factor – willingness of people to cooperate in order to solve some common problems more effectively. The paper provides some general examples from several fields of potential cooperation and selected results of cooperation between archives and library institutions in the Slovak Republic.

BIBLIOGRAPHY

- *Acker, E., O'Connell, P. (2010). Archives and Record Storage Building | Whole Building Design Guide. Retrieved 6. 12. 2011 from: http://www.wbdg.org/design/archives_records.php.*
- *Banik, G. (2005). Mass Technology in Germany and its Quality Control. Restaurator, p. 63-75.*
- *Banik, G., Doering, T., Kolbe, D., Hähner, U. (2005). Quality Control of mass deacidification of library and archival holdings. ICOM-CC 14th Triennial Meeting, The Hague 14-16 September 2005, Preprints (Volume I), ed. Isabelle Verger, James & James Earthscan, London, p. 157-165.*
- *Bluher, A. (2003). Experience in Paper Deacidification - Three Years of Operation in the Swiss National Library. Papierrestaurierung 4, p. 21-28.*
- *BS 5454: 2000. Recommendations for the storage and exhibition of archival documents. British Standard Institution, London. Earlier editions were published in 1977 and 1989.*
- *Bukovský, V. (1997). Yellowing of newspaper after deacidification with methyl magnesium carbonate. Restaurator 18, p. 25-38.*
- *Bukovský, V. (2000). The natural ageing of paper after exposure to daylight. Restaurator 21, p. 229-237.*
- *Bukovský, V. (2000a). Influence of light on ageing of newsprint paper. Restaurator 21, p. 55-76.*
- *Duchein, M. (1988). Archive Buildings and Equipment (ICA Handbooks Series, Vol. 6). K. G. Saur Verlag Gmbh & Co, 2 Sub edition, 232 p. ISBN-10: 3598202784.*
- *Ďurovič, M. et all. (2001). Vliv světla a ultrafialového záření na archivní dokumenty. Závěrečná zpráva grantového úkolu. SÚA Praha.*
- *European Commission (2006). Report on archives in the enlarged European Union - Increased archival cooperation in Europe: action plan. Elaborated by the National Experts Group on Archives of the EU member states and EU institutions and organs at the request of the Council of the European Union. Luxembourg: Office for Official Publications of the European Communities, 248 pp. ISBN 92-79-00870-6.*

- *Hanus, J. (1987). Štúdium starnutia papiera z hľadiska ochrany archívnych dokumentov. (Study of paper ageing from the point of preservation of archives.) PhD. Thesis. Chemical-Technological Faculty, Slovak Technical University Bratislava.*
- *Hanus, J. (2000). Trendy v oblasti masového konzervovania archívnych a knižničných fondov. Slovenská archivistika, 1, s. 18-29.*
- *Hanus, J. (2008). Safety and security in archives. ATLANTI Vol. 18 (2008) N. 1-2, International Institute for Archival Science of Trieste and Maribor, University of Maribor, State Archive of Trieste, Trieste. p. 115-127.*
- *Hanus, J., Hanusová, E. (2011). Archive building – the basic condition for proper function of archives. Tehnični in vsebinski problemi klasičnega in elektronskega arhiviranja - Technical and field related problems of traditional and electronic archiving. Conference Proceedings, Radenci, Slovenija, April 6-8, 10. zbornik referatov. Pokrajinski arhiv Maribor, p. 217-226, ISSN 1581-7407.*
- *Hanus, J., Hanusová, E., Mináriková, J., Szabóová, Z., Bukovský, V. (2006). Svetlo – podstata a degradačné účinky a stav ochrany v niektorých archívoch a knižniciach. Ochrana kultúrneho dedičstva VIII – Fórum konzervátora. Zborník príspevkov z odborného seminára, Martin 2005, Slovenské národné múzeum Bratislava, Slovenská národná knižnica Martin. Edícia Malá knižnica muzeologickej literatúry, Bratislava, s. 125 – 134, ISBN 80-8060-179-8.*
- *Hanus, J., Maková, A., Čeppan, M., Mináriková, J., Hanusová, E., Havlínová, B. (2009). Survey of historical manuscripts written by iron gall inks in the Slovak Republic. Restaurator, International Journal for the Preservation of Library and Archival Materials, p. 1-16.*
- *Hanus, J., Mináriková, J., Szabóová, Z., Hanusová, E., Bukovský, V. (2007). Preventive conservation – significant role in preservation of archives and libraries. Tehnični in vsebinski problemi klasičnega in elektronskega arhiviranja - Technical and field related problems of traditional and electronic archiving. Conference Proceedings, Radenci, Slovenija, March 28-30, 6. zbornik referatov. Pokrajinski arhiv Maribor, p. 156-167, ISSN 1581-7407.*
- *Havermans, J. B. G. A., Dufour, J. (1997). Photo oxidation of paper documents. A Literature Review. Restaurator 18, p. 103-114.*
- *Heitner, C., Scaiano, J. C. (1993). Photochemistry of lignocellulosic materials. ACS Symposium Series 531, Washington, D.C., Am. Chem. Soc. 1993.*
- *Hendriks, K., B. (1994). Permanence of Paper in the Light of six centuries of Papermaking in Europe. Actes des Deuxièmes Journées Internationales d´Études de l´ARSAG. Paris 1994, p. 131-137.*
- *ICA Bibliography 2 (2003). Bibliography of Books, Journal Articles, Conference Papers and Other Printed Sources Relating to Archival Buildings and Equipment. International Council on Archives, Paris, France, 52 p.*
- *ICA Study 17 (2005). Archive Buildings In A Tropical Climate And With Low Resources. ALA Asociación Latinoamericana de Archivos. International Council on Archives, Paris, France, 44 p.*
- *IFLA Library Building Guidelines: Developments & Reflections (2007). Edited on behalf of IFLA by Karen Latimer and Hellen Niegaard, Munich: K.G. Saur, ISBN 978-3-598-11768-8.*
- *IFLA Publications 109 (2004). Libraries as Places: Buildings for the 21st century. Edited by Marie-Françoise Bisbrouck, Jérémie Desjardins, Céline Ménil, Florence Poncé, François Rouyer-Gayette. München: K. G. Saur, 210 p. ISBN 3-598-21839-7.*
- *ILA Library Buildings and Equipment Section (2011). Retrieved 5. 12. 2011 from http://www.ifla.org/en/library-buildings-and-equipment.*
- *Intelligent library buildings (1997). Eds. Bisbrouck, M. F., Chauveinc, M.: Proceedings of the tenth seminar of the IFLA Section on Library Buildings and Equipment. The City Library of The Hague (Netherlands), 24 - 29 August 1997. 235 p.*
- *ISO 11799: 2003. Information and documentation – Document storage requirements for archive and library materials. Geneva: ISO.*
- *Key Issues in Building Design (2011). Retrieved 5. 12. 2011 from http://www.ifla.org/en /publications/key-issues-in-building-design.*

- *Kitching, C. J. (1993). Archive Buildings in the United Kingdom 1977-1992. Royal Commission on Historical Manuscripts, London 1993. ISBN: 0114402442.*
- *Kitching, C. J. (2007). Archive buildings in the United Kingdom 1993-2005. Published: Chichester : Phillimore, ISBN: 9781860774430.*
- *Klasinc, P. P. (2010). The Activities of the International Institute for Archival Science of Trieste and Maribor in 2009-2010 and Presentation of the 20 Issues of ATLANTI 1991-2010. ATLANTI Vol. 20, International Institute for Archival Science of Trieste and Maribor, University of Maribor, State Archive of Trieste, Trieste, p. 27-40.*
- *KnihaSK: Štátny program výskumu a vývoja SR - Záchrana, stabilizácia a konzervovanie tradičných nosičov informácií v SR 2004-2009. Retrieved 6. 12. 2011 from http://www.knihask.eu/.*
- *Krkoška, P., Vizárová, K. (2001). Stálosť a trvanlivosť niektorých buničín a papierov. Buničina a papier - technológie, vlastnosti, životné prostredie. Zborník z medzinárodnej konferencie, p. 171-178.*
- *Library and Archives Canada (2011). Retrieved 6. 12. 2011 from http://en.wikipedia.org /wiki/Library_and_Archives_Canada.*
- *Łojewski, T. ed. (2010). Przeszłość dla Przyszłośći - Masowe zabezpieczanie zasobów bibliotek i archiwów: The Past for the Future. The Mass Protection of Archive and Library Resources. International Conference Proceedings, October 13-14, 2008. Biblioteka Jagiełłońska Krakow, Poland. ISBN 978-83-921946-9-9.*
- *Mass deacidification (2008). Nitrochemie Wimmis leads the fight to save acid-based paper from self-destruction and decay. Retrieved 6. 12. 2011 from: http://www.rheinmetall-defence.com/index.php?fid=4554&lang=3.*
- *National Archives and Records Administration (2000). NARA 1571: Archival Storage Standards. February 15, 2002.*
- *Norme NF Z 40-010 (2002). Prescriptions de conservation des documents graphiques et photographiques dans le cadre d´une exposition. AFNOR.*
- *Official Journal of the European Communities (2003/C113/2): The Council resolution of 6 May 2003.*
- *Porck, H. J. (1996). Mass Deacidification-An Update of Possibilities and Limitations. European Commissionon on Preservation and Access, Amsterdam and Commission on Preservation and Access, Washington, 54 p.*
- *Sedlák, F., Hanus, J. (1978): Z dejín výroby železodubienkových atramentov. Slovenská archivistika, 13, n. 1, p. 111-142.*
- *Slovak National Archives (2000). Compiled by SNA Bratislava, ISBN 80-968406-6-5.*
- *Slovak National Library (2011). Retrieved 6. 12. 2011 from http://www.snk.sk/?o-kniznici.*
- *Strlič, M., Kolar, J. (2005). Eds. Ageing and Stabilisation of Paper. National and University Library Ljubljana, 211 p.*
- *University Library Bratislava (2011). Retrieved 6. 12. 2011 from http://www.ulib.sk/sk/o-kniznici/historia/historia.html.*
- *Vodopivec, J. ed. (2004). Proceedings from International symposium "Exhibiting Archival and Library Materials and Work of Art on Paper: Standards in Preservation". Ljubljana, Slovenia, June 5-6, 2003. National and University Library Ljubljana, ISBN 961-6137-76-X.*
- *Vyhláška č. 628/2002 Z. z. Ministerstva vnútra Slovenskej republiky, ktorou sa vykonávajú niektoré ustanovenia zákona o archívoch a registratúrach a o doplnení niektorých zákonov.*
- *Williams, J., C. ed. (1981). Preservation of Paper and Textiles of Historic and Artistic Value II. American Chemical Society 193, Washington, DC.*
- *World's leading library storage facility opens (2009). Retrieved 6. 12. 2011 from http://www.capitasymonds.co.uk/news__events/news/worlds_leading_library_storag.aspx.*

POVZETEK

ARHIVI IN KNJIŽNICE - MOŽNOSTI IN NUJNOST STROKOVNEGA SODELOVANJA

Trenutna situacija glede materialnega varstva arhivskega in knjižničnega gradiva ponuja veliko možnosti za učinkovito sodelovanje. Velika večina gradiva, ki ga obe instituciji hranita, je na papirju, ki je skupna osnova za rešitve veliko podobnih ali celo enakih težav materialnega varstva. Ne glede na prevladujočo težnjo po njihovi digitalizaciji, morajo arhivi in knjižnice ohraniti tudi originalne dokumente kar je ena izmed njihovih glavnih dejavnosti in nalog. Predstavljene izbrane teme jasno kažejo na široke možnosti za sodelovanje med arhivi in knjižnicami, še posebej na področju varnosti, pogojev hrambe in materialnega varstva papirja kot osnovnega nosilca informacij v arhivih in knjižnicah. Drug primer sodelovanja med knjižnicami in arhivi je LAC (Library and Archives Canada), ki je bil ustanovljen leta 2004 in je združil zbirke, službe in osebje Narodnega arhiva Kanade in Narodne knjižnice Kanade. Obseg in oblika sodelovanja je seveda odvisna od mnogih dejavnikov v različnih državah - od zakonodajnega ozadja, preko realnih kompetenc in dejavnosti obeh institucij do najpomembnejšega dejavnika - pripravljenosti ljudi na sodelovanje z namenom rešiti skupne težave bolj učinkovito. Izbrani primeri - raziskava zgodovinskih rokopisov, svetlobnih pogojev in sodelovanje v znanosti, raziskavah in tehnologiji - ponujajo vsaj nekaj informacij o skupnem raziskovalnem projektu. Uradno in neuradno sodelovanje med Slovaškim narodnim arhivom v Bratislavi, Slovaško narodno knjižico v Martinu in Univerzitetno knjižnico v Bratislavi je eno izmed širših in pripada najožjim in najučinkovitejšim na tem področju v državi. Najpomembnejše sodelovanje poteka v okviru državnega programa raziskav in razvoja "Hramba, stabilizacija in ohranitev tradicionalnih nosilcev informacij na Slovaškem - KNIHA.SK." Eden izmed bolj pomembnih in glavnih praktičnih rezultatov tega raziskovalnega programa bo ustanovitev integriranega centra za hrambo, digitalizacijo in ohranjanje knjižničnega in arhivskega gradiva znotraj Slovaške narodne knjižnice v Martinu, ki bo skrbel za ravnanje z obojim gradivom.