

# History and Development of Preservation of Archives and Library Documents in the Slovak Republic: from Handicraft to International Interdisciplinary Conservation Science

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## *ABSTRACT*

Preservation of cultural heritage is one of the principal tasks of archives and libraries. If the documents are lost or destroyed there is nothing left to be processed and provided to public for history research and broad cultural utilization. The most significant fact from this point of view is legal obligation of these institutions to preserve original documents and historical artefacts. On the basis of almost 40 years active archival service a brief information of development in this field - from handicraft to international interdisciplinary science - in the Slovak Republic is provided: from premises as the basic condition and requirement for proper functioning of any archives and library to very complex task of cultural heritage preservation and necessity for a broad cooperation in this field.

Storia e sviluppo della conservazione degli archivi e dei documenti librari nella Repubblica Slovacca:  
dal manoscritto alla scienza internazionale ed interdisciplinare della conservazione

## *SINTESI*

La conservazione del patrimonio culturale è uno dei principali compiti di archivisti e bibliotecari. Se i documenti vengono perduti o distrutti non rimane nulla da gestire e da venir messo a disposizione del pubblico per la ricerca storica ed il più vasto utilizzo culturale. Il fatto più significativo da questo punto di vista è l'obbligo legale di queste istituzioni di conservare i documenti originali ed i manufatti storici. Sulla base di almeno quaranta anni di attivo servizio archivistico viene fornita una breve informazione sullo sviluppo in questo campo - dal manoscritto alla scienza internazionale ed interdisciplinare - nella Repubblica Slovacca: dalle permesse di condizioni base ed le necessità per un funzionamento appropriato di ogni archivio e biblioteca al compito estremamente complesso della conservazione del patrimonio culturale e la necessità di una vasta cooperazione in questo settore.

Zgodovina in razvoj hrambe arhivskih in knjižničnih dokumentov v Slovaški Republiki: od rokodelstva do mednarodne interdisciplinarne konservatorske znanosti

## *IZVLEČEK*

Ohranjanje kulturne dediščine je ena glavnih nalog arhivov in knjižnic. Če so dokumenti izgubljeni ali uničeni, ne ostane nič za obdelavo ter uporabo. Najbolj pomembno dejstvo s tega vidika je pravna obveznost teh institucij, da hranijo izvirne dokumente in zgodovinske predmete. Na podlagi skoraj 40 let aktivne arhivske službe, je podana kratka informacija o razvoju na omenjenem področju - od rokodelstva do mednarodne interdisciplinarne znanosti - v Slovaški Republiki: od prostorov kot osnovnega pogoja in zahteve za pravilno delovanje arhivov in knjižnic pa vse do zelo kompleksnih nalog ohranjanja kulturne dediščine in potrebe po širokem sodelovanju na tem področju.

História a rozvoj ochrany archívnych a knižničných dokumentov v Slovenskej republike: od remesla k medzinárodnej interdisciplinárnej konzervačnej vede

### ABSTRAKT

Ochrana kultúrneho dedičstva je jednou z hlavných úloh archívov a knižníc. Ak dôjde k zničeniu alebo strate dokumentov, nemožno ich ani sprístupňovať ani poskytnúť verejnosti na historické štúdium alebo iné kultúrne využitie. Najdôležitejší fakt z tohto pohľadu je zákonná povinnosť týchto inštitúcií uchovávať originálne dokumenty a historické artefakty. Na základe skoro 40 ročného aktívneho pôsobenia v archívnej službe je poskytnutá stručná informácia o vývoji v tejto oblasti - od remeselných počiatkov až k medzinárodnej interdisciplinárnej konzervačnej vede - v Slovenskej republike: od budov ako základnej podmienky a požiadavky na správne fungovanie archívov a knižníc až po komplexné úlohy ochrany kultúrneho dedičstva a nevyhnutnosti širokej kooperácie v tejto oblasti.

### INTRODUCTION

The Slovak National Archives is the largest and the most important public archives in the Slovak Republic. Its aim is to acquire, preserve, professionally and scientifically process, and make archival documents originating from the activities of central government authorities of the Slovak Republic and its legal predecessors accessible. In addition, it provides storage of records of nation-wide importance, as well as those, acquired as gifts and purchases or as a result of deposit agreements<sup>1</sup>.

The Slovak National Archive was founded in 1954 under the name State Slovak Central Archive. Its predecessors were the Regional Archive in Bratislava (1928- 1939), the Archive of the Ministry of the Interior (1940-45) and the Archive Mandate of the Interior (1945-1954). From the passing of the Act on Archives in 1975 it bore the name of the State Central Archive of the Slovak Socialist Republic which was changed to the Slovak National Archive in 1992<sup>2</sup>.

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<sup>3</sup>. Nowadays it is the leading workplace for conservation, restoration and digitization of library documents in Slovakia.

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<sup>4</sup>. Restoration department was established on January 1, 1960. Started with 3 bookbinders, nowadays it consists of 7 employees with university graduate level and secondary specialised education in conservation.

### DEVELOPMENT IN PRESERVATION

Preservation of archives is complex of processes, techniques and actions ensuring their stability and protection against damage, destruction or disposal and manipulation and treatment of damaged documents. It is a comprehensive system consisting of preventive measures and conservation and restoration processes<sup>5</sup>. It belongs to the basic tasks of archival institutions and it is the main scope of employment of the present Department of Archival Preservation of the Slovak National Archives.

1. *Slovak National Archives*, compiled by SNA, Bratislava 2000.

2. Z. KOLLÁROVÁ - J. HANUS, *Spríevodca po slovenských archívoch / A Guide to the Slovak Archives*, Prešov 1999, 94 s. slovensky, 94 p. in English.

3. <http://www.snk.sk/?o=kniznici> (last visit on June 19, 2013)

4. <http://www.ulib.sk/sk/o=kniznici/historia/historia.html> (last visit on June 19, 2013)

5. *Zákon 395 zo 17. mája 2002 o archívoch a registratúrach a o doplnení niektorých zákonov*. Zbierka zákonov č. 395/2002, Strana 4090, Čiastka 158, [www.zbierka.sk](http://www.zbierka.sk) (last visit on June 19, 2013)

This activity belongs to the basic one since the beginning of organized archives in Slovakia. It can be witnessed by the fact that the first bookbinder started to work in this institution already in 1955. In 1958 a graduate from the Secondary graphic school in Prague started his work as conservator in this department. In publication commemorating the 20<sup>th</sup> anniversary of organized archival service in the Slovak Republic (1974) the Department for Conservation and Reproduction of Documents had already been mentioned as the fixed part of the structure of the Archives using standard working processes: „Conservation laboratory of the State Slovak Central Archives is equipped for conservation and restoration of archival documents by two methods. Classical method means filling up the damaged or missing part of documents by liquid paper stock; the second method is lamination of documents. The first method is manual the second is a machine one ... In the last two years the laboratory is focused on restoration and conservation of medieval manuscript codices - besides single sheets also rear artistic-historical book bindings and metal parts have been restored...“<sup>6</sup>.

### Microfilming of archival documents

Safety microfilming was considered to be very important since the beginning of the organized archival service in Slovakia; it is indicated by the fact that already in 1954 two photographers were employed in the Conservation and Reproduction Department. Systematic microfilming in the Archives started gradually about 1960 and in the above mentioned publication (<sup>4</sup>) it is stated: „photographic laboratory is equipped mainly for systematic microfilming of archival documents kept in the State Slovak Central Archives, in the state and district archives in the Western Slovakian archives and for copying of microfilms from other archives in Slovakia, academic workplaces, museums and other institutions which keep microfilms from abroad. In the last years the average production of three microfilming machines for conservation purposes has reached 450.000 frames per year. About the same number is produced by copying of master negatives for study purposes“.

The Department of Archival Preservation of the Slovak National Archives, which gradually developed into a top level, can certainly be nowadays included among the standard European workplaces in this field. It is all the time divided into two organizational units - conservation and restoration of archives and photographic laboratory. It continues in conservation and restoration of archival documents, where, first of all, paper and parchment documents in separate sheets or in a book form, book bindings, large format documents, such as maps, plans, drawings, seals and contemporary documents are being restored using standard technological processes and tested materials. However, the systematic microfilming has been replaced nowadays by digitization of archival documents.

The department, which employs now 14 people, serves as a methodological centre, training and research institute in the field of preservation of archival documents<sup>7</sup>.

Already in the information on Department of Laboratories in conception of further development of the State Central Archives of the Slovak Socialist Republic<sup>8</sup> it was proposed to establish a workplace for research in the field of conservation and restoration. However, it was obvious that effective results can be achieved only in close cooperation with particular research institutions, universities and corresponding institutions at home and abroad through interdisciplinary activities in this field.

## COOPERATION AND RESEARCH FIELDS

### Buildings

Archive building is the basic condition for proper functioning of any archives. 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 requires also the different necessary conditions for archival building which must be accomplished and fulfilled. This is the reason why close co-operation is unavoidable between archivists, conservators,

6. *Archív v Slovenskej republike*, ed. Š. Rudohradský, Bratislava 1976, s. 42.

7. J. HANUS, *Ochrana archívnych dokumentov v kontexte domácich a zahraničných aktivít Slovenského národného archívu*, In *Zborník príspevkov z vedeckej konferencie „50 rokov Slovenského národného archívu - Osudy, problémy a perspektívy slovenského archívnictva“*. SNA Bratislava 10. - 11. 11. 2004, Bratislava 2005, s. 61-83.

8. J. HANUS, *Oddelenie laboratórií v koncepcii ďalšieho rozvoja ŠÚA SSR*, „Slovenská archivistika“ 1979, n. 2, s. 155-158.

architects, engineers and all experienced experts who can help already in planning either new building or reconstruction of adapted premises for archives purposes. Therefore some activities in this field were carried out and results were published<sup>9, 10, 11, 12, 13, 14</sup>.

### Entrance cleaning and disinfection of archives

The logical prerequisite for moving of archival documents of the Slovak National Archives into new building in 1983 was the requirement for their disinfection/sterilization in order to eliminate microbiological contamination and store them decontaminated in new premises. Fumigation chamber Vacudyne VFS 250 (USA) - using a mixture of 10% ethylene oxide as effective agent and 90% carbon dioxide - was installed and have been used since then for entrance sterilization. As microbiological contamination and its elimination presents very serious problem an appropriate attention was paid to it especially in cooperation with the State Central Archives in Prague and the Centre de recherches sur la conservation des documents graphiques in Paris<sup>15, 16, 17, 18, 19, 20, 21</sup>.

### Applied research in paper ageing and preservation of archival documents

In this part at least brief summarized information on activities in research of paper ageing and preservation of archives are provided. It must be stressed at the beginning that the obtained results was possible to gain only on the basis of good and close cooperation with many institutions, especially with the Faculty of Chemical and Food Technology of the Slovak Technical University in Bratislava, Slovak National Library in Martin, University Library in Bratislava, Polymer Institute of the Slovak Academy of Science, National Archives in Prague and the Centre de Recherches sur la Conservation des Documents Graphiques in Paris and within the framework of several national and international projects.

9. J. HANUS, *K niektorým otázkam technického vybavenia novostavby ŠÚA SSR v Bratislave*, In *IV. Posvetovanie o strokovnih in tehničnih vprašanjih arhivov*, Maribor 1982, s. 116-122.
10. J. HANUS, *Some experience with purpose-built archives building after 17 years*, „ATLANTI“, 11(2001), n. 2, p. 140-144.
11. J. HANUS - E. HANUSOVÁ, *Appropriate Archival Building: Necessity for Proper Function of Any Archives*, „ATLANTI“, 22(2012), n. 1, p. 61-69.
12. J. HANUS - J. MINÁRIKOVÁ - Z. SZABÓOVÁ - V. BUKOVSKÝ - E. HANUSOVÁ, *Measurements of light conditions in some Slovak archives and libraries*. COST Strategic Workshop on Cultural Heritage “ Past, Present, Prediction”, Ohrid, Macedonia, May 31- June 1, 2007. COST CD ROM.
13. J. HANUS, *Light conditions in some Slovak archives and libraries - standards, reality, prevention*. COST D42 Management meeting, Ohrid, Macedonia, June 2, 2007, COST CD ROM.
14. J. HANUS - J. MINÁRIKOVÁ - Z. SZABÓOVÁ - E. HANUSOVÁ - V. BUKOVSKÝ, *Preventive conservation - significant role in preservation of archives and libraries*, In *International conference “Technical and field related problems of traditional and electronic archiving”*, Radenci, Slovenija, March 28-30, 2007. 6. zbornik referatov, Maribor 2007, p. 156-167.
15. J. HANUS, *Hromadná dezinfekcia archívneho materiálu v ŠÚA SSR v Bratislave*, „Slovenská archivistika“, 21(1986), č. 2, s. 209-210.
16. J. HANUS, *Microbiological contamination and ethylene oxide fumigation - for and against*, „ATLANTI“ 6(1996), pp. 85-93.
17. J. HANUS - J. MINÁRIKOVÁ - M. ĎUROVIČ - B. BACÍLKOVÁ, *Influence of ethylene oxide fumigation on some properties of different types of paper*, In *La Conservation: Une Science en evolution - Bilan et Perspectives. Actes des troisièmes journées internationales d'études de l'ARSAG, Paris, 21 - 25 April 1997*, p. 193-203.
18. P. RICHARDIN - J. HANUS - S. BONNASSIES-TERMES, *Rétention de l'oxyde d'éthylene dans les documents graphiques et photographiques désinfectés*, In *Colloque Huilles essentielles et conservation des oeuvres d'art. Musée National des Arts et Traditions Populaires, Paris, 2-3 décembre 1998*, Abstracts of presentations, p. 11.
19. J. HANUS, *Determination of residual ethylene oxide and its desorption from different types of sterilized papers*. Final Report, Paris 1998, 100 p.
20. J. HANUS - P. RICHARDIN - S. BONNASSIES-TERMES, *Influence of ethylene oxide sterilisation on some photographic papers*. ICOM Committee for Conservation, 12<sup>th</sup> Triennial Meeting Lyon, 29 August - 3 September 1999, Preprints Volume II, p. 550-554.
21. J. HANUS - P. RICHARDIN - S. BONNASSIES-TERMES - M. ĎUROVIČ - V. KUBELKA, *Comparison of two different methods by head space gas chromatography for determination of residual ethylene oxide in sterilized papers*. ICOM Committee for Conservation, 12<sup>th</sup> Triennial Meeting Lyon, 29 August - 3 September 1999, Preprints Volume II, p. 507-512.

### *Study of paper ageing and degradation*

Of all writing and drawing materials that people have employed down the ages, paper is the most widely used around the world and has become one of the most important bearers of our history and culture. Paper is the principal information carrier for documents and books kept in archives and libraries. Paper itself is just a common material of everyday use. However, once it is used as the carrier of some ideas, administrative acts, treaties, books, documents, artistic creations, etc. it becomes also the part of cultural and information values.

From a chemical-physical point of view, paper is a felted sheet of fibres formed by introducing a water suspension of the fibres on the screen, leaving a wet sheet of paper which is removed and dried. Additives of one or several types are usually introduced before or after the sheet is formed to contribute desired properties to the paper. Despite it is not defined uniquely by the composition of the fibres used in its fabrication, cellulose fibres are the chief material used in the papermaking. The major part of present-day production is based on wood pulp<sup>22</sup>. Because of natural ageing paper made from vegetable fibres is subjected to loss of its mechanical properties, changes in chemical and optical properties. Paper ageing is very complicated process; therefore some of our activities were focused to study of paper ageing from the point of preservation of archives<sup>23, 24, 25, 26, 27, 28</sup>.

Ageing of paper is influenced by internal and external degradation factors. This is the reason why some of our research activities followed behaviour of paper during long term storage in archival boxes and influence of macro - and micro - environment on these changes<sup>29, 30, 31, 32</sup>.

### *Permanent and durable paper*

Paper assigned for documents for long term storage would be permanent and durable<sup>33, 34</sup>. The term "permanence" designates preservation of original properties with emphasizing of chemical stability in the course of long term storage. The term "durability" expresses degree of mechanical strength and flexibility which is kept by paper itself during external use and stress. Utilization of permanent and

22. B. L. BROWNING, *Analysis of Paper*, New York and Basel 1977.

23. J. HANUS, *Štúdium starnutia papiera z hľadiska ochrany archívnych fondov*, In *Pokroky v chémii a technológii dreva, celulózy a papiera. Zborník prednášok a súhrnov prednášok z odborného seminára*, Bratislava, 1982, s. 109.

24. J. HANUS, *Vplyv niektorých faktorov na starnutie a stabilitu papiera*, In *XIV. kolokvium „Chémia vo výrobe papiera“*, Bratislava, 1985.

25. J. HANUS, *K niektorým otázkam starnutia papiera*, In *VI. celoštátny seminár reštaurátorov a historikov*, Bratislava, 1985. Zborník prednášok, s. 177-218.

26. J. HANUS, *Štúdium starnutia papiera z hľadiska ochrany archívnych dokumentov*. Kandidátska dizertačná práca, Bratislava, 1987, 130 s.

27. J. HANUS - J. MINÁRIKOVÁ - E. HANUSOVÁ, *Deacidification without equipment and money - dream or reality?* ICOM-CC 13<sup>th</sup> Triennial Meeting, Rio de Janeiro 22 - 28 September 2002, Preprints (Volume II), edited by Roy Vontobel, London, pp. 603-608.

28. J. MINÁRIKOVÁ - J. HANUS - K. KASÁKOVÁ - E. HANUSOVÁ, *Some remarks to ion migration deacidification method*, In *International Conference WPP 2003. WPP Chemical Technology of Wood, Pulp and Paper, Proceedings of the International Conference, September 17- 19, 2003*, edited by G. Baudin - J. Fellegi - G. Gellerstedt - S. Katuscak - I. Pikulik - J. Paris, Bratislava, pp. 430-433.

29. J. HANUS - M. KOMORNÍKOVÁ - J. MINÁRIKOVÁ, *Influence of boxing materials on the properties of paper items stored inside: ICOM Committee for Conservation, Working Group: Graphic Documents. Amsterdam 3.-5. April 1995*, „Restaurátor“, 16(1995), pp. 194-208.

30. J. HANUS - M. KOMORNÍKOVÁ - J. MINÁRIKOVÁ, *Changes in Some Mechanical Properties of Paper During Ageing in an Archival Box: ICOM Committee for Conservation, 11th Triennial Meeting, Edinburgh, Scotland 1 - 6 Sept. 1996*, Preprints Volume 2, pp. 510-516.

31. J. HANUS - J. MINÁRIKOVÁ - E. HANUSOVÁ - M. KOMORNÍKOVÁ, *Sledovanie zmien niektorých vlastností papiera počas starnutia v archívnych krabiciach - Časť 1, 2: X. seminár reštaurátorov a historikov, Litomyšľ 24. - 27. 9. 1997*, s. 200-211; 211-221.

32. J. HANUS, *Macro- and micro-environment in storage conditions of archives and libraries: Symposia Healthy Indoor Environment, The Hague, Netherlands, 16 - 17 September 2004*.

33. STN ISO 9706, 1994 *Information and Documentation. Paper for documents. Requirements for permanence*, Switzerland, 1994.

34. ISO 11108: 1996 *Information and Documentation. Archival Paper. Requirements for permanence and durability*, Switzerland, 1996.

durable paper for creation of records and documents - which are potential archival documents - is the best way for their long term preservation. Therefore Slovak National Archives in cooperation with the Northern-Slovakian Pulp and Paper Mills in Ružomberok supported and enhanced production of such paper in Slovakia already in 90-ties of the last century and nowadays paper of this quality is commercially routinely available<sup>35, 36, 37, 38</sup>.

### ***The approach to cultural heritage preservation in archives and libraries - KNIHA.SK***

At the beginning of 2000 formal and informal cooperation of the 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”<sup>39</sup>.

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 stabilisation 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 specialised 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.

### ***Degradation of historical manuscripts and documents by the influence of transitional elements in writing inks***<sup>40</sup>

Important historical objects in libraries and archives, i.e., documents, illuminated manuscripts, coloured 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. Within the framework of the project<sup>(40)</sup> also a survey of a group

35. Zborník z medzinárodného seminára „Degradácia archívnych a knižničných materiálov vs stály a trvanlivý papier“. (Proceedings from the International Seminar „Degradation of Archival and Library Materials vs Permanent and Durable Paper.“), edited by J. Hanus, Bratislava, 1993, 79 p.

36. J. HANUS, *Alkaline Papermaking in Slovakia*, „Alkaline Paper Advocate“, US, Nov. 1993, v. 6#5, p. 38.

37. J. HANUS - E. HANUSOVÁ, *Permanent Paper in Slovakia - Its production, properties and use*. In *Library Preservation and Conservation in the 90s: Proceedings of the Satellite Meeting of the IFLA Section on Preservation and Conservation, Budapest, August 15-17, 1995*, edited by J. L. Whiffin - J. Havermans, München 1998, pp.167-174.

38. J. HANUS - E. HANUSOVÁ - M. KOMORNÍKOVÁ - J. MINÁRIKOVÁ, *Prevention is better than cure. Histoires d'Archives, Recueil d'articles offert a Lucie Favier par ses collègues et amis. Société des amis des Archives de France*, Paris 1997, pp. 189-203.

39. <http://www.knihask.eu> (last visit on June 20, 2013).

40. *Degradácia historických rukopisov a dokumentov vplyvom prechodných prvkov v písacích látkach*. Projekt APVV-24-034202. Zodpovedný riešiteľ Michal Čeppan, Slovenská technická univerzita v Bratislave, Fakulta chemickej a potravinárskej technológie, Slovenský národný archív, 2004-2006.

of historical manuscripts was carried out. This research represents the first attempt in order to gain the information about the physical condition 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 and its results have been published<sup>41</sup>.

### *Fixation of writing inks and dyes*

New writing agents are - in contrast to medieval iron-gall and carbon inks - soluble in polar solvents, i.e. also in water. Sometimes it is necessary to fix these inks before conservation treatment and after it to remove the fixing chemicals. Bleeding of new writing inks and their fixation is complicated problem; we have also tried to contribute to its solution<sup>42, 43, 44</sup>.

### *Evaluation of records permanence produced by different types of printers*

New digital technologies - of which electrographic and ink-jet printing - are the most frequently used for creation of optical and graphic records. They are thus used in state and public administration as well as in other institutions and organization for creation of records which are potential archival documents. Hence the testing and evaluation of their permanence and ageing resistance during long term storage in archives is very important<sup>45, 46, 47, 48, 49, 50</sup>.

## Participation in European projects

### *MIP, InkCor, Papyrus, PaperTreat, COST D42*

In order to be able to protect archival collections against harmful and detrimental effects, first of all it is necessary to know these effects and to understand the nature of the deteriorative and destructive factors. This is the reason why a lot of awareness is devoted to cultural heritage preservation in many countries and in the European Union as join projects of different countries and institutions. This fact is proved by many European projects in this field. Participation in international projects represents a unique opportunity to develop a broad international cooperation, to preserve and present archival heritage to international public and to create possibilities for better access to archival documents through modern technology for all archives, too. Slovak participation in European projects in preservation of cultural heritage MIP (Transitional Metals in Paper), InkCor (Stabilization of paper containing iron-gall inks), Papyrus (Chemiluminescence - a novel tool in paper conservation studies),

41. J. HANUS - A. MAKOVÁ - M. ČEPPAN - J. MINÁRIKOVÁ - E. HANUSOVÁ - B. HAVLÍNOVÁ, *Survey of historical manuscripts written by iron gall inks in the Slovak Republic*, „Restaurator, International Journal for the Preservation of Library and Archival Materials“, 2009, pp. 1-16.

42. J. MINÁRIKOVÁ - J. HANUS - E. HANUSOVÁ, *Fixácia novodobých písacích prostriedkov iónovými činidlami*, In *XI. seminár reštaurátorov a historikov, Litoměřice 13.-16. 9. 2000*, s. 223-228.

43. B. HAVLÍNOVÁ - J. MINÁRIKOVÁ - L. ŠVORCOVÁ - J. HANUS - V. BREZOVÁ, *Influence of Fixation and Deacidification on Stability of Aryl methane Dyes on Paper in the Course of Accelerated Ageing*, „Restaurator, International Journal for the Preservation of Library and Archival Materials“, 26(2005), pp. 1-13.

44. J. HANUS - J. MINÁRIKOVÁ - B. HAVLÍNOVÁ - L. ŠVORCOVÁ - V. BREZOVÁ - E. HANUSOVÁ, *Changes of Some Aryl methane Dyes on Paper during Conservation Treatment: Proceedings of the ICOM-CC Graphic Documents Interim Meeting, March 11-12, 2004*, Editors J. Kolar, M. Strlič, J. Wouters, Ljubljana, pp. 65-66.

45. J. HANUS - J. MINÁRIKOVÁ, *Vyhodnotenie stálosti grafických záznamov vytvorených digitálnou tlačou niektorými typmi tlačiarní*. Výskumná správa, Bratislava 2001, 18 s., 28 príloh.

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Papertreat (Evaluation of mass deacidification processes), and COST Action D42 (Chemical Interactions between Cultural Artefacts and Indoor Environment - EnviArt) have been presented and information on their aims, tools and results provided in the paper<sup>51</sup>.

### *National and International Digitization Projects*

Development of information technology in the last ten years has greatly influenced also “life in archives”. Digital conversion of archival material itself has advanced rapidly in the past few years. It promises to continue to expand its reach and improve its capacities. Digitization has proven to be possible for nearly every format and medium presently held by archives - from manuscripts to maps, and moving images to musical recordings. Digitization is no doubt the issue that more than anything else fascinates preservation managers in many institutions. The possibilities seem limitless, the advantages are obvious and “archives and libraries without walls” are seemed to become very close future. Archives have to cope with transformation of their registers of archival fonds/collections and finding aids from paper into electronic form, digitally born electronic records created by state agencies, legal persons and physical persons turn into electronic archival documents. It seems that digitization of archives is the way which allows general public access to them through the use of digital copies and at the same time preserves the originals.

This is the reason why many national and international projects are oriented in digitization of archives in order to make access to them more comfortable for broad public and to preserve originals at the same time.

National projects in this field - Central register of archival fonds and archival collections, Finding aids, Heraldic register, Parish registers on-line, Digital Library - Digital Archives, and participation in international projects - Monasterium, ENArC - European Network on Archival Cooperation, CrArc - Archives without borders - Historical documents as a base for raising cross-border awareness of the public, APEX - Archives Portal Europe network of eXcellence are presented in publication<sup>52</sup>.

### *SUMMARY*

On the basis of almost 40 years active archival service brief information of development in this field - from handicraft to international interdisciplinary science - in the Slovak Republic is provided. From very modest starting point - personal and technical - at the beginning of organized archival service in the Slovak Republic in 1954 till present situation in cooperation with different institutions, research activities and participation in several national and international projects it is possible to summarize achieved results in the Slovak National Archives in Bratislava. Similar situation can be followed in the Slovak National Library in Martin and University Library in Bratislava, two biggest and the most important Slovak libraries. Research activities in buildings, entrance cleaning and disinfection of archives, applied research in paper ageing and preservation of archival documents - study of paper ageing and degradation, permanent and durable paper, the approach to cultural heritage preservation in archives and libraries - state programme KNIHA.SK, degradation of historical manuscripts and documents by the influence of transitional elements in writing inks, fixation of writing inks and dyes and evaluation of records permanence produced by different types of printers have witnessed broad and deep involvement in mentioned topics with references to many relevant sources. Participation in European projects MIP, InkCor, Papyrus, PaperTreat, COST D42 confirms also very intensive international cooperation. Development of information technology in the last ten years has greatly influenced also “life in archives”. Digital conversion of archival material itself has advanced rapidly in the past few years. Participation in several national and international projects - described in more details - suggests intensive involvement of Slovak archives and libraries also in this field.

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