

# THE OLD BOOK – PROTECTED CULTURAL HERITAGE: FROM RESTORATION TO DIGITIZATION

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The purpose of this article is to overview an old books distinctive features, preservation opportunities and measures. In Lithuania an old book is considered to be all the prints, published up to press ban in Latin characters abolition in 1864. Unique book's traditions determined different conception of old book in different countries. The book, which edition has remained only one copy is considered to be unique, rare books - remained less than 20 copies. Other rarity, uniqueness and value criteria of old books are: original binding, print method, author's or reader's autographs, other marginality, book ownership signs. The National Book Heritage includes all the 16th Lithuanian prints, 17th - 20th early prints, remained several copies. Among the world's greatest rarities mostly fall incunabula, palaeotypes, first prints in national languages, prominent publisher's and printer's books.

Old publications require special protection, special knowledge for researching – from ancient languages to book binding refinements, special storage conditions. Book science work is an integral part of the fund management and public awareness. Especially important are the book signs, which naming shows the history and processes of collection formation, it helps to reconstruct old books collections. Book ownership signs – provenance records and signs – ex-libris, super ex-libris, wafers, stamps, inscriptions can help to identify the unknown book or literary history facts. Not small amount of book's signs are inscriptions and sketches, which occupies an intermediate position between the ownership signs and marginal notes in the book. Researchers study them in the writing evolution and paleography context. The result of researching – specialized databases of ancient book-bindings, watermarks, book signs.

The largest Lithuanian old and rare books funds are stored in Vilnius University library, The Wroblewski Library of The Lithuanian Academy of Sciences, Martynas Mažvydas national library of Lithuania, Lithuanian Literature and Folklore Institute research library. A part of book heritage is stored in museums – in National Museum of Lithuania, Maironis lithuanian literature museum and etc.

The goal of memory institutions is to spread widely the message of collections, which they store and do not let to sink documentary heritage into



oblivion. In carrying out this responsibility libraries must ensure a proper storage conditions, must develop book science research work, must expand the virtual space – digitize documents, ensuring their preservation, greater accessibility and visibility. Libraries carrying the proper storage of the fund are guided by the Republic of Lithuania law library, law on protection of movable cultural property, Republic of Lithuania law on documents and archives, library foundation security and storage standards.

The storage facilities, air temperature, humidity and light maintenance, fight against chemical and biological contamination requires specific professional knowledge and significant costs, but proper storage conditions are cheaper investment, ensuring good physical book condition, then already broken document's restoration. Book storage conditions are very important to document's physical material. The materials from which are made books or other documents – paper, paint, glue, leather and other – are an organic origin. In all organic origin materials constantly proceeds certain physico-chemical, photochemical processes. Documents are changing because of this processes and it calls natural aging, proper storage can significantly increase book's age:

- There must be proper atmospheric conditions in the storages: the temperature and humidity must be consistent and not changing: the temperature  $+18^{\circ}\text{C}$  ( $\pm 2^{\circ}\text{C}$ ), humidity (50–60%). Paper is sensitive to weather fluctuations: paper fibers absorbs water and swells in the moist air, paper format changes irreversible; when there is too dry air, organic material shrinks, dries up, paper becomes fragile. By the early 19th paper raw material was cotton and linen rags, it was a good quality paper. In 19th second half, when the machine paper making started, the main raw material was wood cellulose. During the making process sheet of paper was filled with resin adhesives including additive aluminum sulphate. This paper is poor quality, quickly absorbs environmental pollutants, begins to acidify, to yellow, to disintegrate, it responds to external factors more sensitive than rag paper, it is less resistant to adverse environmental impacts.

- Storage facilities must be continuously ventilated, entering air must be as clean as possible. Airborne fumes and particulate matter of various sizes catalyze chemical decomposition reactions in documents - paper acidification, discolouration, dust contamination, dust absorbs moisture and creates an environment for mold and insect development. Air conditioning systems, ventilation openings fitted with filters reduce the possibility of harmful gases to penetrate the storage from outside.

- Light regulation: light impinging document destruction is an ongoing process, changes are irreversible. Light causes discolouration, material



decomposition, acidity of paper so it becomes brittle, it yellows; light facilitates other decomposition reactions. The impact of light depends on the intensity and the documents exposure time. Storage must be completely dark, documents are illuminated only when it is necessary. Old documents should be exposed in the UV-resistant stands. The light source should not be set directly to the exhibit. Luminous flux, incident on the exhibits, shall not exceed 50 lux. Document exposure time shall not exceed 6 months. If you require a longer exposure time, printed originals must be replaced by copies.

- Special documents collections should be stored in folders, boxes, which are made from alkaline paper material, that does not contain lignin.

- Regular storages and books cleaning: in order to avoid harmful books and space contamination by dust, which absorbs moisture, thus enables the development of biological pests.

Leather book covers are especially sensitive to changes in humidity: it expands or shrinks and the book cover quickly deforms, that kind of books should be stored in special boxes, to prevent light damage, dusts and mechanical injuries. It is not recommended to store books with leather covers and books with paper covers in the same place, because leather acids and ointments move to other books, damaging them.

Ensuring proper storage conditions, qualifications for funds maintenance, other thing to do is poor condition document's conservation and restoration, priority of works is determined by the physical condition of the documents, uniqueness, historical and cultural value, readers' needs. Conservation usually involves document stabilization processes – it is research-based practices to stop destroying or damaging effect on the document and strengthen the authentication features, protect it from natural deterioration. Documents restoration seeks to preserve cultural heritage, historical and physical authenticity with a minimum intervention on the subject. Restoration is more complex process, because of lost parts reconstruction: paper or leather renewal procedures, which requires restorer skills, special restoration materials, tools and equipment. Before restoration, first takes place preparatory work: document's binding structure and elements evaluation, printing method and cover decoration techniques identification, restoration tool selection, disinfection, stamps, record fixation and documentation. Restored cultural values passport fixes the current state of the document and plans necessary restoration actions. The goal of these action is to reveal the cultural value of the document, eliminating violations, conserving the authentic and recreating the missing parts of the document, preserving cultural value for the future generations.



Proper storages, restoration works requires a lot of resources. Only the largest libraries with a large valuable books collections can ensure the regulations and laws of the funds storages requirements. Smaller libraries and other memory institutions are not able to ensure these requirements, therefore preservation priority is digitization. Valuable collections becomes visible to the public, digitization promote co-operation between the libraries sections. Old and rare prints fixed in a digital format becomes widely available, preserving the original document. Documentary heritage digitization processes management is a new activity for libraries, museums and archives, requiring additional professional competence. In addition to quite efficiently solved old books preservation problems, it comes other problems: a selection of proper access to digitized documents, financing, development of new services and administration, legal digitized heritage protection and other issues. It is necessary to promote technological progress and to implement international standards, which would provide equal opportunities to access various countries digitized cultural heritage.

Proper use of digitization standards gives consistency to processes, it facilitate actions – information from different sources is adjusted to users through clearly defined formats, user interfaces and protocols.

The main phases of digitizing are the selection of objects, evaluation and conservation, copyright laws coordination, original and digitized objects bibliographic records arrangement, scanning or photographing, archiving in storages, making the relation between images and bibliographic records using special software and making available access to public. Each process requires skills and special knowledge. Memory institutions profile, the value of documents determines priorities and selection criteria. Lithuanian cultural heritage digitization concept defines these selection criteria: uniqueness, content and value, physical condition, age, language of the document, significance to the world and country culture.

Specialist must evaluate documents condition before digitization. Conservation is mostly used method in order to stabilize physical document condition. It prevents documents demaging through scanning process.

Book must be cataloged before digitization, book's bibliographic record must be included in the electronic record's database. This is necessary for cognition of objects, interpretation, in objects analyzing context – compliance with the collection or the family to which it belongs, for original object and its copy search and understanding. An international old (antique) monographs standard bibliographic description is used for old books cataloging, it outlines the regulation. Based on this description standart the book is described in details: the author, title, work name, edition data (place, publisher/



printer) publication, physique, artwork, book format, introductions and dedications, work language, signatures, decorations, property signs, binding, defects, storage, pressmarks etc. The digitized object bibliographic record is creating next to standart bibliographic description. These records are called object metadata – structural and standardized document's data. There are general, descriptive, administrative, content and structural metadata. Standardized subject information is needed in order to develop integrated virtual libraries information systems.

Scanning process should not damage the material. It creates high-quality digital original, that must correspond quality standards: image file format, scanning resolution, original document's contours etc. Scanned documents are archived in repositories. Later, using certain software, publications bibliographic record are relating to the corresponding scanned images array, also checking images quality, pagination, after it document is suitable for publishing on the internet.

National Library initiated Lithuania's cultural heritage digitization activities. Digitization project "Virtual Electronic Heritage System Development" combines various memory institutions for general purpose – to make our cultural heritage more open to Lithuania and worldwide users. This project involves the Lithuanian Art Museum, Lithuanian Archives Department, Lithuanian theater, music and cinema museum, Vilnius University library, The Wroblewski Library of the Lithuanian Academy of Sciences and 4 County Public Libraries. The result of the project – portal [www.epaveldas.lt](http://www.epaveldas.lt), it currently has more than 3 millions extremely valuable pages of old books, newspapers, art works, manuscripts, ecclesiastical metrics. Also, this database provides data to a common European cultural heritage portal [europeana.com](http://europeana.com).

Kaunas county public library joined to the national digitization project in the second stage. The main selection criteria was copyright issues, rarity of the objects from the remaining copies, poor document's conditions, popularity among readers. It is important to note, that digitization priority was given to documents, which was created in Lithuania or in the territory belonging to Lithuania by lithuanians or other nationalities. These documents holds an important content about Lithuania and lithuanians in different languages. Digitization involves periodicals, different areas of the interwar period publications: military, psychology, religion, social sciences, literature, laws and normative documents, various textbooks, calendars, manuscripts, small publications and posters, musical notes publications, cards, exhibition catalogs.

Continuous activities of the project is carrying out at the moment: selection of documents for next stage, new institutions incorporation for digitization activities.

Key words: *old and rare book, publication, documents, cultural heritage, conservation, restoration, preservation, storage conditions, book signs, digitization*

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