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Introduction to the Librarian Training Program on Material Preservation by the National Library of Korea

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Abstract

The National Library of Korea recognized the necessity of training on material preservation, and instituted the training program on material preservation for librarians in 1999.

This paper tries to present a brief introduction of training program on material preservation offered by the National Library of Korea. Specifically, it is very instrumental in promoting the understanding of characteristics of Korean paper and book-binding conservation methods used in Korean classics. And propose the direction of material preservation training program.

. Introduction

The meaning of material preservation that Korean libraries had in the past was activities for preservation required to maintain and manage collections in order to ensure the use of diverse types of library materials and the information recorded in them.

Moreover, the material preservation of the National Library of Korea had been considered as one of assisting services of library until 2000, and with the completed construction of "Deposit Building" in August 2000, a framework for effective preservation and management of material was laid out. The National Library of Korea recognized the necessity of training on material preservation, and instituted the training program on material preservation for librarians in 1999.

As of 2005, 15,711 librarians are working in 11,793 libraries of national library of Korea, public library, school library, college & university library, special library, and so on, in Korea, and various training programs for those librarians are being offered by the National Library of Korea.

The National Library of Korea instituted the "Training Program on Material Preservation" and has offered 5-day-long training to about 40 to 50 librarian, and the training aims to transfer the theories of preservation materials and simple techniques of repair and restoration. Specifically, it is very instrumental in promoting the understanding of characteristics of Korean paper and book-binding conservation methods used in Korean classics.

This paper tries to present a brief introduction of training program on material preservation offered by the National Library of Korea, and propose the direction of material preservation training.

. The National Library of Korea and the status of material preservation work

1. Naissance of the National Library of Korea

The main building and stake room facility of the Chosun Government-general, the predecessor of the National Library of Korea, was established on the ruins of NamByeol Palace addressed on 6 Sogong-dong Jung-gu, Seoul in December, 1923, whose construction commenced from March, 1923 and completed in December and is comprised of book renting office, reading room, office, sterilization room in the one story building with 5 basement floors.

The Library of Chosun Government-General possessed a total of 284,457, which it collected and maintained until 1945: 138,431 Eastern books, 129,323 classics, and 16,703 Western books.

The material preservation work, which is the important responsibility and function of the National Library of Korea, began with its takeover of the building of Library of Chosun Government-General and its collection of books in October 15, 1945, which was located at the Sogong-dong, Joong-gu, Seoul.

From the foundation of nation, it established the library school in 1945 and fostered the librarians who would lead the library society. The initial training course focused on the basic subjects, such as the classification and listing to organize materials, and at present, it is evolving into a professional training organization for librarians and the library that represents Korea.

2. Libraries in Korea

As of 2005, a library of about 200 million books are stored and maintained in 11,793 libraries, including the national library of Korea, school libraries, colleges & universities and special libraries and others. Moreover, 15,711 librarians are working in libraries.

Table 1. Libraries and books in Korea (2005)

Type	Libraries	Books (volume)	Employees (persons)
National Library of Korea	1	4,432,399	213
Public Library	487	38,423,789	5,664
College & University Library	438	94,464,376	3,791
School Library	10,297	64,777,980	3,726
Special Library	570	13,091,793	2,317
Total	11,793	215,190,337	15,711

3. The emphasis on the preservation of material and necessity of education

The number of libraries in Korea doubled over the last 10 years from 1995 to 2005, and the number of collections stored in libraries increased by about 2.6 times. With the quantitatively increased material and prolonged preservation period, the importance of preserving the material came to the fore, including the lack of space for preservation, damage to the material and the ancillary handling of the damaged material and so on. In addition, the education system to preserve the material and foster experts came to be required at the national level.

Table 2. Number of libraries and books by year

Year	Number of Libraries	Number of Books (volume)	Number of Persons (persons)	Remarks
1995	7,758	81,908,886	11,104	
2002	9,872	165,963,956	13,562	
2003	10,543	181,361,573	14,265	
2004	11,104	195,949,015	15,144	
2005	11,793	215,190,337	15,711	

There are about 10 libraries at most in Korea, including the National Library of Korea, which store the professional book collection for the purpose of preserving the material, among many libraries, such as universities, colleges, public and special libraries. Most of libraries are storing the material for usage. Furthermore, libraries which are older than 30 to 60 years after 1945 are seriously discussing the problem with the storage of original books as the books printed on mutton-tallow are acidified and worsened in quality as a result.

Some of the problems in moving forward with the preservation of books in Korea are such as following;

- Regional and small libraries do not have enough awareness about the preservation of books.
- Absolute lack of material, professional personnel and budget
- Lack of preservation facility to maintain appropriate preservation environment
- Reliance on some of 'cultural-asset' preservation training organizations due the absence of professional 'book preservation training' organization
- Lack of policy and support for preservation from central organizations

Under those circumstances, the National Library of Korea was examined and evaluated by independent experts to set up the plan for the scientific storage and maintenance of material in 1997. The outcome of analysis pointed to the problem of the material preserving environment (temperature and humidity), use of bad quality paper for newspapers, magazines and general books and damaged paper, absolute lack of personnel to build a scientific preservation and maintenance system.

In response to that, the National Library of Korea constructed the current deposit building in August 2000 in order to strengthen the preservation and secure the facility

and professional personnel, and moreover, hired two specialists in charge of material preservation in January 2002. Specifically, it instituted the material preservation-training course in 1999 to foster and train professional manpower to handle the material preservation.

. Training on material preservation by the National Library of Korea

In 1999, the National Library of Korea introduced the "Training Program on Material Preservation" to the job-training program, which has been provided to librarians every year and has provided 40 to 50 librarians with 5-day-long annual training. The training does not target material preservation experts but the librarians responsible for the viewing and preservation of material. Therefore, the training aims to transfer basic theory of material preservation, simple repair and restoration skills that can be applied easily on the spot.

Table 3. Annual Trainees

Year	Number of trainees	Status of Trainees	Remarks
1999	59	Librarians of 6 to 9 grade	
2000	62	Librarians of 6 to 9 grade	
2001	38	Librarians of 6 to 9 grade	
2002	39	Librarians of 6 to 9 grade	
2003	34	Librarians of 6 to 9 grade public servant and librarian	
2004	46	Librarians of below 6 grade librarian and functional librarian	
2005	54	Librarians of below 6 grade public servant librarian	
Total	332		

11 subjects were instituted by classifying the contents of training that aimed to enhance the material preservation, into basic theory, practical learning and liberal arts. For each subject of training, a group of instructors composed of professors, people charged with the actual material preservation and researchers of research institutes are

providing the practical training on the material preserving environment, book management, techniques to maintain classics (old literatures), maintenance of electronic material, treatment of damaged paper material, simple repair and restoration of books in libraries, and so on.

Table 4. Subject and schedule of training

Type	Subject	Hour(s)	Instructor	Remarks
Basic theory	Basic theory of material preservation	2	Professor of Cultural Heritage Preservation Department	11 Subjects
	Technique to maintain classics (old literatures)	3	In charge of classics at the National Library of Korea	
	Material preservation environment and maintenance of collections	3	In charge of preservation at the National Library of Korea	
	Current stage of material preservation	3	Professor of Cultural Heritage Preservation Department	
	Right use and treatment of material	1	In charge of preservation at the National Library of Korea	
	Preservation and maintenance of electronic materials	3	A researcher at the Research Institute for Korean Archives and Records	
Practical learning	Simple repair and restoration of paper materials	3	In charge of preservation at the National Library of Korea	
	Damage to paper materials and the science of preservation	3	Professor of Cultural Heritage Preservation Department	
	Treatment and preservation of damaged paper	3	A researcher at the Research Institute of Cultural Heritage Preservation	
Liberal arts	Healthful laughing to feel 20 years younger	2	-	
	The appreciation of Pungsoojiri[topographically favorable location] and cultural heritage	2	-	

The following is some of major subjects in the training program on material preservation:

1) Basic theory of material preservation

The training course for basic theory of material preservation is mainly composed of the concept of material preservation, necessity of material preservation, strategy of material preservation, cooperative activities, introduction of useful web site, and so on. It provides extensive information about all policies and activities required to maintain and manage collections in order to guarantee the use of library materials and the information recorded on them, which is the comprehensive concept of material preservation. It also explains about the establishment of basic policy that is useful for librarians to preserve the material in libraries, maintain appropriate environment for material preservation, secure the space to store and preserve collections, convert the medium, repair and restore, set up the measure to respond to disaster, to cooperate for the material preservation and provides the theoretical explanation about the need and contents of training which is provided to staffs.

In particular, it emphasizes the importance of setting up the strategy for material preservation. Considering that every person is responsible for the material preservation in library, all employees under the director of library should be committed to the material preservation every day. The first stage of setting up the strategy for material preservation in library is to investigate the state of library building and collections to identify the problem with the preservation and the measure for that. The priority of preservation should be determined by the investigation of current status, and existing work practice should be improved to ensure material preservation. Furthermore, measures to improve and maintain the library environment, set up measure to cope with disaster, convert the medium and preserve the shape, and so forth, should be taken. And it tries to maintain that appropriate budget should be allocated to library for material preservation.

2) Environment of material environment and maintenance of library

It provide the explanation based on the scientific ground as to optimal preservation environment of each medium, facility and equipment of library and the method of preservation and maintenance, to ensure the prolonged life of material.

First, it classifies the cause of deterioration and damage caused by the long-term preservation into the environmental factor and the internal factor like material quality, in relation to the optimal preservation environment. The environmental factor included

the type of damage, such as discoloring, drying, acidification, and the international standard of maintenance on the temperature, humidity, air, light, contaminants, and so on.

For the internal factor, it explained on the quality of material, depending on the medium such as paper, sensitization medium, microfilm, magnetic medium, etc, and the characteristics of preservation.

Second, the explanation is provided about the facility and equipment of library among library preservation architectures, and about the interrelated factors that affect the stability of library building, such as the load of building, shape of library, type of material, etc, and the requirements. In addition, it provides an explanation on the principle of operating library environment maintaining equipment and its type that need to be understood in handling the temperature and humidity maintaining system, fire monitoring system and lights and the like.

Third, it emphasized the importance of the preserving environment and the library maintenance, like the need to secure the maintenance personnel with appropriate knowledge and qualification, the placement in library according to the classifying system for important materials maintained in library, maintenance of statistical data, periodical examination of material, examination of preserving environment within library, examination to identify abnormality or failure of facility and equipment used for the preserving environment, contingent measures to cope with disaster in case of emergency, control of exit/entrance of library, security measures, and so on to ensure a scientific maintenance.

3) Handling methods for classics

Classics means old books in Korea, and refers to books in pure Korean language. Generally, the term of classics means oriental book and have been used extensively. Books that were published or written before 1910 and have book-cover design unique the East are classified into classics.

In terms of appearance, Korean classics are characterized by the Whagji-Hongsa(which means that the book cover is always dyed in yellow color and the threads that binds the book has always red color) and 7-hole perforating bookbinding conservation method, which is distinctive from classics of China.

Moreover, the size of Korean classics is relatively bigger than classics of China or Japan, and were published in metal casting type, and mostly mulberry paper was used for books. Mulberry paper, called mulberry type, had minute textile and strong

durability, and was seldom rusted or discolored, and in that light had for more excellent quality than the paper used in China or Japan and could be preserved for a long time.

In addition to that, the Korean classics had the subdued color of gardenia seed. So, the embossed surface is felt when touched by hand. Classics were even more added with the fantastical taste by using 'wooden plate(flower patterned)' which was employed to make books according to the traditional Korean book making method. 'wooden plate(flower patterned)' refers to the hard wooden board that is used to print the patterns on the book cover. It is a book-making method unique to Korea which is hardly observable in Japan or China. Patterns appear slowly if the folded paper applied with Korean paper folded several times, is placed on the 'wooden plate(flower patterned)' and pressed strongly with hard stone. The most outstanding pattern that can be embodied with the 'wooden plate(flower patterned)' includes 4 Gracious Plants, peony, pomegranate, lotus flowered patters in the shape of (fylfot[key] pattern)().

For the preservation and maintenance of classics, original copy is converted and used to examine the material, report on the storage and prevent the damage from use. Furthermore, paper box, preservation folder and envelope which are the tools for preservation are used, and the dust is removed using specially-designed sponge and brush.

Specifically, scarce classics or solely-existing copies are designated as precious copies for special maintenance. The deterioration and damage is analyzed, and damaged materials are requested for restoration. In using the material, limiting the use of original copy is desirable. Material converted from original copy should be used, and the use of precious material should be reserved only for research, and under no circumstances, the transcription and photocopying should be prohibited. Furthermore, cotton globe should be put on in viewing the original copy to prevent the damage.

Like that, it explains about the characteristics of Korean classics, notes to be heeded in handing them, media conversion, and the method to use them.

4) Practical learning of simple repair & restoration of library collections

This subject is for the practice using actually damaged material to learn simple ways of repairing and restoring the materials on the spot. In the first place, the preparations include scissor, preservation tape, preservation vacuum cleaner, ruler, Korean paper, folder or bamboo scoop, brush, neutral paste, globe, dry type cleaning sponge, coating (wax) paper, mask, knife, tweezers, etc.

The practical learning is composed of 4 types, and classified into 'how to remove the dust from the library and materials', 'how to repair and restore book-bindings', 'how to repair and restore inner paper', and 'how to handle material in case of disaster'.

Vacuum cleaner is used to remove the dust from library and material, especially the head and back of books. Dust should be removed individually for precious materials or materials covered with thick dust by using brush and dry type cleaning sponge. Old dust can be removed from the book cover by wiping them out in circular motion. Head, bottom and front of book should not be touched in principle when removing the dust, but if the dust is accumulated seriously, grasp the book so as not to make the book spread itself and the inner paper is damaged, and then wipe the dust out carefully.

Next, it is the repair and restoration of book-binding. Set the cover, whose cover is falling apart, to right condition, and then cut out the 'book back repairing clothes' or Korean paper by 3 to 6 cm in width and by the same length as the inner paper. Attach the cut clothes to the back or inner paper of book and then attach the remaining part to the cover. Press the back of book using the folder, so that the clothes gets completely attached.

If the inner paper fell apart, set the torn parts to the right condition and align them properly in mending and restoring. Cut out the neutral tape by 2 or 5mm in width, and then attach the tape along the torn part. If the torn part is curved or has long length, attach the tape by the section. At this time, make the neutral tape overlapped by approximately 1 to 2 mm.

In handling the material in case of disaster, the first aid can be applied by inserting the absorption paper to prevent the inner pieces of paper from being attached to one another or reduced in size and then dry them in the shade where there is a good ventilation, which are damaged by the rupture of pipes in the building or flood. After press it using the pressing apparatus. In addition, the treatment should be made quickly to prevent the fungus from appearing.

Separate the materials which have the fungus from other materials by putting them in the vinyl bag and then have the professional sterilization service provider sterilize the separated materials and disinfect the area as a preventive measure where the polluted materials were stored. The appearance of fungus on the materials implies high temperature and humidity of the place where materials were stored and maintained. Check and lower the temperature and humidity to the ideal range (18~22 , 45~55%).

5) Damage to the paper materials and the science of preservation

Paper that is used to make paper material in Korea can be classified into the Western paper and Eastern paper. Here the cause of physical, chemical and biological damage arising from the long-term preservation, method of producing Western and Eastern paper and their characteristics are explained, as well as the investigation and analysis of cause of damage to material, removal of the identified cause and reinforcement, procedure of work in phase for the maintenance of preserving environment.

Particularly, it provides a detailed training on the characteristics of Korean paper used in Korean classics and traditional method of producing it. Mulberry paper is an example of Korean paper mainly made of bast fiber, and in Korea the excellent paper made of this mulberry textile already existed in the Unified Dynasty of Silla. This mulberry paper was used to make Korean classics for the most time. The Korean paper made of mulberry textile has superior quality to that of Western paper made of pulp in terms of strength, preservability and so on.

The Korean paper refers to the handmade paper that was made by dispersing in water the bast fiber, the flesh of bark of mulberry tree (*Broussonetia kazinoki* Sieb) which inhabits in Korea, according to the traditional techniques. The mulberry tree that inhabits in Korea is considered to be a splendid material because it has longer fiber length, better luster and elasticity than hemp, which was used widely in China, a kind of mulberry tree (*Edgeworthia papyrifera* Sieb. et Zucc) of Japan, or wild goose skin (*Wikstroemia sikokiana* Franch. et Sav.).

The traditional way of retrieving the Korean paper is by "retrieving with single-legged net" in water. This technique is optimal to obtain the paper with diverse thickness, good strength and elasticity. At this time, thin bamboo points are tied into horsetail for use of leg and its size varies.

Good quality, smooth, soft and good ink-permeable Korean paper is made by pounding the Korean paper with the pounding stone, if necessary, after drying the Korean paper.

Producing the Korean paper was a hard labor as it took about 10 days to over 1 month according to the traditional Korean paper production method. However, the over 1,000-year-long and unique Korean paper culture has been handed down to us by transcending it based on the spirit of Korean craftsmanship.

. Evaluation & Analysis of Training Course

This training course includes the survey of trainees, which comes on the heels of the completion of training every year. The survey is conducted on the preference of subject, association with work, requirement of trainees and so on.

- For the preference of subject, it turned out that over 60% of trainees answered that the lectures were prepared very well and very useful as to the material preservation environment, maintenance of library, simple repair and restoration of collections, techniques to maintain classics, damage to paper materials and science of preservation, treatment of damaged paper and preservation (practical learning).
- In terms of the applicability to the real work, trainees who are not currently responsible for the material preservation participated in the training to link what they learned in connection with the material preservation to their everyday work, and the trainees in charge of material preservation indicated in their answers that the training helped them apply more what they learned to their real work and enhance their professionalism.
- In terms of the requirements from trainees, trainees wanted to proceed further with the practical learning about the repair and restoration of classics, detailed techniques that they need to understand in dealing with the tool to preserve materials, and also wanted to see the subject instituted about media conversion, techniques to preserve and maintain non-book materials, measures to cope with disaster. Furthermore, they wanted to have the field trip to organizations, which set the example of material preservation.
- Capacity of training course for the entire librarians, and the lack of opportunity (332 people out of 15,711, approximately 2%)
- Lack of instructor and facility for practical learning for each media
- Lack of institutional support for material preservation and maintenance
- Promotion of superiority of Korean paper as the medium of preservation
- We figured out the issues, such as the need to maintain a positive relation of cooperation with international organizations.

In response to that the National Library of Korea is trying to foster material preserving specialists by initiating a permanent training system that focuses on the practical learning and by instituting the course of literature information and material preservation course in related universities and colleges, and is preparing to strengthen the cooperation system with international bodies, such as IFLA PAC, as part of effort to expand the hours and subjects of practical learning and resolve the problem with the

lack of instructor and facility for practical learning that is designed to transfer the simple method of repairing and restoring the collection of books and the method to treat and preserve damaged material, while expanding the capacity of material preservation course to about 100 trainees which will be held twice a year.