

Preserving Memory through Media Migration Rare Books in Bogor Botanic Gardens Library for Researcher Community

Syifa Adiba
Australian National University
Australia
u6476523@anu.edu.au

Febriyanto Febriyanto
Universitas Indonesia
Indonesia
febriyanto221@gmail.com

ABSTRACT: *This paper is about Bogor Botanic Gardens Library which is one of the oldest libraries in Indonesia. The library collected the rare and old books, containing memory knowledge in botany field which is widely used by researchers. To keep the information contained in the memory for the benefit of knowledge development, librarian conduct preservation by transferring the rare collection media into digital form. Reformatting library material in preservation activity is one of a way to reduce/repair library material. Rare books are library collections that rarely get any attention. Rare books condition that is not maintained well will affect the retrieval information process by the users. The purposes of this article are to explain library materials reformatting activity, especially rare books in Bogor Botanic Gardens Library, alongside with strengthens and weakness. The result from this research then will be linked with library material preservation and retrieval information; in this case, it's a rare book. Bogor Botanic Gardens is chosen for research object because the library has so many rare books and cannot be found in any other place; also the rare books need special treatment. This research is conducted using observation method with qualitative analysis. At the end of this article, it will afford criticism and suggestion about reformatting process in Bogor Botanic Garden.*

Keywords: Media Migration, Reformatting, Rare Book, Preservation, Library Collection

Received: 21 March 2018, Revised 27 April 2018, Accepted 3 May 2018

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1. Introduction

One of the important thing regarding library character is the collection of books. In this case, rare books are library collection type. According to International Encyclopedia of Information and Library Science (2003)¹, a rare book is “literally, a book of which copies are scarce and hard to obtain. The term has various secondary implications concerning the age, research content, production values and financial value of a book. The term originates in the book trade, where there are rare-book dealers, but carries over into librarianship, where rare book libraries, departments and librarians are sometimes identified. Special collections

and the archival library are naturally extensively stocked with rare books. Rare book libraries exist for the same reasons and have the same functions as other libraries.”

As the centre of knowledge, the important task and function of the library are to maintain, keep, and preserve the library material collection. So that, the collection and information content can remain accessible to the user. Besides, the user will also find it easier to retrieve the information. Unfortunately, not all libraries do library preservation practices following the existing procedures and condition. Generally, this condition occurred in rare books collection in the library. Often, rare books are not properly maintained or even ignored. As a result, rare books become destroyed, and the user will find it hard to retrieve the information. In this case, the library material preservation is an important thing related to library management. Based on ALA Glossary of Library and Information Science (2013) preservation is the activities associated with maintaining the library and archival materials for use, either in their original physical form or in some other usable way. Considering the importance of library preservation activities, the library should pay attention to the state of library materials, especially rare books. Widyawan (2013: 1) define preservation as a branch of the library and information science related to access for preservation or improvement towards artefact, document and record through the diagnosis, review, prevention and treatment of weathering and damage.

Conservation is not an easy activity. This activity is costly and takes a lot of time. Moreover, Indonesia’s position in the tropics has often become an obstacle factor related to conservation activity. High temperature and humidity are the main factors in accelerating the damage of library materials. Temperature and humidity also affect the conducive conditions for the proliferation of tropical insects which is one of the factors that cause damage to library materials. According to the director of the National Preservation Office of the Australian National Library, Jan Lyall, there are several factors that make archival life very difficult in the Asia / Pacific region but they are applicable to most developing countries as well: tropical climates; political unrest/war; the lack of acknowledgement of the need to preserve by the government; selling of valuable heritage material to fulfil basic needs of the local population; physical isolation; differences in language and literacy skills (Taygeler, 2001).

Media migration is one of the alternative forms of library preservation activities. According to Wulandari (2002: 83), media migration is an alternative to the library collection conservation, where there will be a reproduction from the original material to new media without eliminating or reducing the content or information within the document. Given the importance of library material preservation, especially on rare book collection, the authors are interested in explaining in further detail about library material preservation conducted by Bogor Botanic Gardens Library. Furthermore, the author also tried to describe the library material preservation process in media migration form, as described previously. The author will also link the issue with the importance of media migration in retrieval information process.

2. Research Method

Qualitative research or often referred to as naturalistic research is a study that not look closely at the context of the study, but also focuses on the effort to reveal characteristics of a social phenomenon as it was when the researchers conduct the research.² According to Powell and Connaway (2004: 59), qualitative research tends to apply a more holistic and natural approach to solve the problem than the quantitative research. This study also tends to pay more attention to the subjective aspects of human experience and habits.

Qualitative research requires researchers to participate and be part of the entity under investigation, to be able to understand and interpret the phenomena that occur in the research activity. Therefore, qualitative research is related to one’s ideas, perceptions, opinions, or beliefs, which cannot be measured by numbers. It means the data used in the qualitative research is descriptive data, either in the written or spoken form, from the people and behaviour that can be observed. Thus, this qualitative research is also a descriptive study.

This research is done by using the observation methods, the methods that depend on the eyesight, hearing, asking questions and collection of artefacts³. The purpose of using this observation method is to enable researchers to gather accurate information about an event⁴. To implement this method, researchers collect the data through direct observation and document study.

In this paper, the authors will describe the activities of media migration, especially in the rare books collection in Bogor Botanic Gardens Library. By using observation method, this study is expected to provide an overview of the media migration process and its relation to the library material preservation.

3. Media Migration

Media migration is a document management process from physical form (read: paper form) become electronic form and then can be managed using information technology⁵. Simply said, media migration is the digitizing process. Collection of library materials in paper form or other materials converted into digital collections.

The media migration process sounds easy if we viewed the process as the definition above. However, if the process is already done, media migration is not an easy process. Many factors need to be considered when doing the media migration process. For example, the condition refers to the library's interest to do the media migration in their library material. Is the library material important enough or not? This condition is considered because of the limited funds owned by the library. The University of Illinois at Urbana-Champaign Library Large-scale Digitization Project, (2007) restoration of the original binding attempts to duplicate the book's original, or near original, condition and can be justified in cases where the integrity of the artefact is of bibliographic, historical or aesthetic significance.

3.1 Unique Library Material

Unique library material includes rare books and special collections, such as manuscripts, books with jewelled edges or have special marks, manuscripts with the handwriting of important or famous figures, books with illustrations of painting that are important for history and art, the personal emblems and the original signature of a remarkable person. The original form should be maintained.

3.2 Historical Value Library Material

This material has historical value. So that, it has great importance to the scientific research field. Thus, this material should have the media migration done.

3.3 Aesthetic Value Library Material

Any library material that is considered to have high aesthetic value. It can be seen from the mould or the binding. For example, the book that has a particular illustration design, coloured, with carvings or beautiful writing.

According to Widyawan (2013 : 161) there are three kinds of media migration technology:

3.3.1 Photocopying

Photocopying is the process of reformatting. By using photocopies, library materials can be duplicated with more and do not cost much. Photocopying process also can be done by the librarians without help from outside the library.

3.3.2 Making a Microfilm

Microfilm is a traditional method that has been occurred in decades. Record Management Unit of Public Works and Services (2010)⁶ define microfilm as the process of recording and reproducing the records on the film. The film used in microfilm process consisted of various sizes and tailored to the library needs. For example, a 35mm microfilm is commonly used for the newspaper. Microfilm can also be microfilm coils, microfiche, aperture card, ultrafine, micro-opaque.

As one of the storage media, the micro form has several advantages. For example, related to the media storage. Small microfilm form is very beneficial because it can save more space in the library. Moreover, nowadays is rare to find the library that has big space. Not to mention the printed collections that usually fill up space in the library. Microfilm form also easy to duplicate. This condition certainly helps the librarian works in term of duplication. The most important in the microfilm process is the cost spent on production is way more affordable than print material.

However, with the development of age and technology, microfilm is increasingly abandoned. Moreover, access by using microfilm is getting harder because of the lack/unavailability of the machine, i.e. micro reader. Not to mention, the user also must do the reading manually, and it does take time. Equipment and maintenance of expensive microfilm tools is also one of the reasons why microfilm is increasingly being abandoned by libraries, especially in the case of media migration.

3.3.3 Digitalisation

Digitalization is a way to capture and save the picture using computer technology. Currently, digitalisation process is one of the famous activities in the library. This because the practice can be done in many ways and method. For example, the library can use

a digital camera, DSLR, or scanner. By digitalisation, the library can make the duplication more fast and easy. The user also can access the information more efficiently and faster. Not to mention that they can also access the information everywhere and every time. However, the proliferation of technology, once again become the obstacle in media migration process with digitalisation process. The lifespan of electronic or optical media technology is not long enough. Not to mention, there is often a lack of synchronisation between hardware and software. For example, the device is no longer manufactured, and the old software cannot be used using a new machine. This condition is a usual problem related to digitalisation.

4. Media Migration in Bogor Botanic Gardens Library

Bogor Botanic Gardens Library is a special library managed by Sub Department of Information Services in Center for Plant Conservation Botanic Garden under Indonesian Institute of Science (LIPI). The primary task of this library is to carry out the library management and dissemination of knowledge and information.

As a part of Bogor Botanic Gardens, Bogor Botanic Gardens Library has a vision and mission to support research activities at the Bogor Botanic Gardens. The vision of Bogor Botanic Gardens is a centre of botanical, conservation, domestication and plantation information. To achieve this vision, Bogor Botanic Gardens Library conducted a mission, namely by adding collections and developing a library management system in digital form.

Bogor Botanic Gardens Library has library collection that support the duties of the parent institution, namely Sub Division of Information Services, Center for Plant Conservation Botanic Garden under Indonesian Institute of Science in Bogor Botanic Gardens. Collection owned by Bogor Botanic Gardens Library has a lot of collection that can be categorised as unique collection. For example, exploration reports (*lapeks*) or rare books.

As a library that stands along with the establishment of Bogor Botanic Gardens, Bogor Botanic Gardens Library is one of the oldest libraries in Indonesia. Thus, it is natural that many collections owned by Bogor Botanic Gardens have a long-standing year, such as books published in the 18th century.

Bogor Botanic Gardens Library was established in early May 1842⁷. Collection owned by Bogor Botanic Gardens was originally a private collection of J.K. Hasskarl, a Dutch citizen who was a researcher at *Assistan Hortulanus' Land Plantetuin* (Bogor Botanic Gardens at that time). Hasskarl bought his first 25 books to Jacques Pierot. Bogor Botanic Gardens Library then developed up until now. This is because the collection owned by Bogor Botanic Gardens Library is very supportive to research activities at the Bogor Botanic Gardens.

Collection of rare books owned by Bogor Botanic Gardens Library, unfortunately, do not get proper maintenance. This condition is contradicting with the state that rare book collection requires more specific treatment than regular book collection. Deterioration of library materials caused by natural elements, light, air-borne pollutants, mould and pests, is usually gradual and cumulative and is always irreversible (Mahmood, 2013).

4.1 Temperature

As a tropical country, Indonesia has an average temperature between 28-29°C⁸. However, the ideal temperature for book collection storage is between 20-21°C. Meanwhile, the recommended temperature for rare book collections is between 10-11°C. The use of air conditioner at Bogor Botanic Gardens Library does not necessarily help the process of preventing weathering of library materials. This because, when the library is closed and not in use, the air condition will be turned off. Also, the collection of books and rare books are stored in the same place is not a good idea. This condition will lead to weathering in rare books material in quick movement due to unsuitable temperature conditions.

4.2 Humidity

High temperatures and humidity are the characteristics of tropical countries. Relative humidity refers to the water content contained in air at t specific temperature. Temperatures that descend rapidly can lead to condensation. This also occurs in the collection of rare books in Bogor Botanic Gardens Library. The placement of collections in closed cabinets exacerbates the state of the book. In fact, books require air circulation like humans to be able to breathe. At the Bogor Botanic Gardens Library, the authors found a collection of rare books are moist and the papers attached to each other. The growth of mushrooms in the book also become the thing that occurs in the rare book collection in Bogor Botanic Gardens Library.



Figure 1. Books damaged by insects and temperature conditions

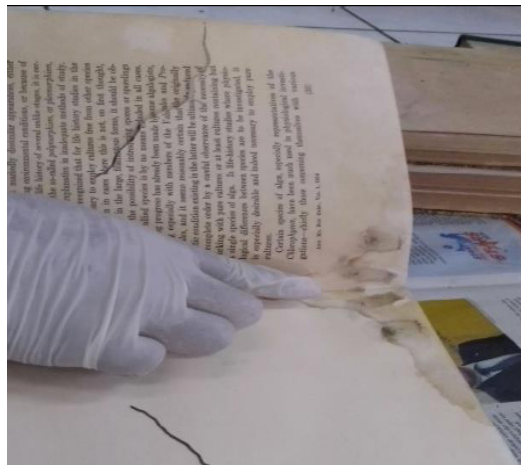


Figure 2. The state of the book due to high humidity



Figure 3. The book that turns into yellow colour

4.3 Lighting

Direct and continuously radiation on the library material will cause the material to fade. This condition will also lead to a darker

colour, and yellowed ink colour changes alongside with the weakened fibres. There are a lot of incomplete collection of the rare book in Bogor Botanic Gardens Library. This condition can be seen in many books that have their book jackets been released. Also, the papers on the book also have a yellow colour, and the writing has begun to fade.

4.4 Pollutants

Dust, paint residue, unprocessed wood and gaseous plastic are pollutants that can damage the paper. Generally, pollutants are hard to consider its existence because of its small shape. Many people also think that pollutants are not that important. In fact, pollutants also contribute to book damage. Collections at Bogor Botanic Gardens are already dusty. The folding test (folded paper) performed also shows the fragility of the book.



Figure 4. Dust in the rare book collection

As a form of countermeasures damage to rare book collections, Bogor Botanic Gardens Library committed to performing conservation activities consistently. There are eighteen titles of rare book collections that have gone through the process of media migration.

The process of media migration in Bogor Botanic Gardens Library has been done with digitalisation process. This method is being used considered the condition of rare books in Bogor Botanic Gardens Library that has been in severely damaged state. So that, it is not possible to photocopy or microfilm the collection.

The aim of media migration activity in rare book material not only to keep the information contained within it but also help the user to access the information more efficiently. Librarians in Bogor Botanic Gardens Library can also rectify damaged text or image quality with the help of software. In the process of rare book media migration, the Bogor Botanic Gardens Library does the following:

4.4.1 Selection

In this process, Bogor Botanic Gardens Library choose which rare books that need to be migrated first. This condition considered the number of rare book collections. Selection of books is seen through several aspects. For example, book scarcity, published year, book damage (based on severity) and another aspect. After completion of selection, Bogor Botanic Gardens Library then submit a proposal for funding to have media migration project. This part was done considering the method of media migration is costly.

4.4.2 Media Migration Process

After the selection process, rare books are then being migrated. Books that have undergone the selection process in the early stages will be selected again if the proposal submitted is not able to cover the cost of rare book offered. Next, after the re-selection process, the rare book then just went through the process of media migration. In carrying out the process of media migration, Bogor Botanic Gardens Library received technical assistance who assisted from the existing IT experts in the Center for Plant Conservation Botanic Garden building (the building where the library is located).

4.4.3 Dissemination of Information

Unfortunately, the process of dissemination information is still considered low. This is because of the form of the file format used in the process of media migration, namely in the form of Macromedia flash SWF file format. The form of Macromedia is a binary file format that provided vector graphics (especially animations) and other data types, including "bitmap" video, through the internet to Flash Player9. The software used to access the file is done Flash Player Projector. However, the user can also use other software to access the data. The use of files in the form of Macromedia is used so that the librarian is not saturated during the process of retrieval. However, the retrieval process using the Macromedia format is more difficult than the plain text format.

For storage media used by Bogor Botanic Gardens Library is CD (compact disk) format. CD format is more affordable than another format. It also more comfortable to make duplication using this format. Bogor Botanic Gardens Library is equipped with computers that can access the CDs. Thus, the user can access on-site. However, the user cannot borrow the collection because access can only be done in Bogor Botanic Gardens Library.

5. Conclusion

As one of the special libraries that have a rare book collection, Bogor Botanic Gardens Library is committed to performing conservation with the media migration process. Unfortunately, the media migration process, in this case, digitalisation, is not an easy process to do. This process takes a lot of time, and it takes persistence in the process. The cost required for the media migration process was not a small amount. Not to mention, the software used in this practice continues to progress. Of course, this condition adds to the swelling in the cost incurred.

The storage of rare book collections and other books (textbooks, exploratory reports, magazines, etc.) that are stored together is also not a good thing for conservation. Termites or insects found in rare book collections can migrate to textbook collections and destroy existing collections. The air conditioner is not turned on for 24 hours is also a problem related to the rare book collection care. Drastic temperature changes will aggravate the already damaged book state.

In this case, Bogor Botanic Gardens Library can do several ways to overcome the problem related to media migration in the rare book collection, namely:

1) Collection File format: One of the disadvantages of digitalisation is the absence of certain standards regarding storage. To overcome this problem, Bogor Botanic Gardens Library can create its reference standards regarding media migration. The use of more universal file formats, such as PDF (portable document format) will also help users to retrieve the information more efficiently. Files in PDF format also have many advantages, such as smaller file size, direct printing and software used to open the file does not require hardware with certain specifications.

2) Special Budget: In addition to budgeted funds for procurement of textbook collection, the Bogor Botanic Gardens Library also needs to make budget plan related to media migration. This condition should be done considering the process of media migration requires a considerable amount of cost. Indeed, this is not an easy matter. However, Bogor Botanic Gardens Library can also cooperate with private parties in the process of media migration of this rare book material.

3) Storage: Rare book collections and textbooks stored in the same room will undoubtedly accelerate the damage of that collection. For that reason, collections on rare books need to occupy a special place suitable for the storage of rare book collection.

4) Preservation and Conservation: Given the absence of room that can be used for special storage collection of rare books, Bogor Botanic Gardens Library can do preservation and conservation activities periodically. Keep in mind that preservation and conservation are two different things. The American Library Association distinguish preservation as an action undertaken to anticipate, prevent, stop or impede damage. While conservation is the maintenance of every collection that is being used¹⁰. Bogor Botanic Gardens Library can perform simple preservation and conservation actions, such as cleaning the collection from dust and dirt or fumigation in the library room.

By doing above activities, Bogor Botanic Gardens Library can keep the collection of rare book materials in a better way. Users who want to access the information on rare book collection also can retrieve the information more efficiently.

Acknowledgment

This research was supported by Indonesia Endowment Fund for Education, Ministry of Finance.

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Authors' Background

Your Name	Title*	Research Field	Personal website
Syifa Adiba	master student	Digital humanities, information literacy, library science, cultural heritage management	
Febriyanto	master student	Information studies, Knowledge transfer, library and archive	https://febriyanto21.wixsite.com/resume