

Archiving Digital Photos and Files at the Sonobudoyo Museum as a Reconstruction. Effort and the Preservation of the Historical Archives of the Museum's Treasury

DOI : 10.46522/S.2022.02.5

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Abstract:

Archiving historical photographic works in museums is not easy because an archiving staff does not only archive photos but also has to take care of, examine photo data, and present them to the public so that they become archives that are worth showing off. Researchers, together with archive staff, will categorize photos based on three categories, namely photos of colonial cultural history, the war of independence, and the period of nation building. In this case, the research aims to find out work patterns and what an archiving staff does, categorize photos, know virginity and archiving methods so that it is useful to add references to the breadth of the photography profession that will be conveyed to the public. Preservation of photographic works is also a form of long-term research that requires patience because of the very broad aspects of its work. Proper handling, storage, or reconstruction of historical photographic material requires special care, so this research is expected to provide a new discourse to the public regarding the breadth of the world of photographic work that is not limited to photographing skills.

Key words: museum, sonobuoy, archiving, photos, history.

Preliminary

The development of the world of photography is not limited to photographing activities in terms of concept and production in journalistic, expression and commercial photos, but the archiving medium is something that deserves to be reviewed. In this case an archive staff has an important role in an archive both in terms of maintenance, reconstruction, revitalization, preservation, and presentation aspects so that aspects of the work pattern of an archive staff that are rarely known by the public become interesting to review. Preservation carried out by an archivist is closely related to the maintenance of photographic works or restoration of artifacts which aims to transfer the function of digitization, document recap and archives through analysis, diagnosis, reconstruction, maintenance, and photo publication. An archivist is responsible for the preservation of records.



The Law of the Republic of Indonesia: 7 of 1971 defines what is meant by archives of texts made and received by state institutions and government agencies, private bodies, and individuals in any form in a single state or government agencies, private agencies, and individuals in any form in a single state or government agencies in the context of carrying out government and national activities.

“In any form” means that archives can be recorded on paper and non-paper media which can generally be divided into four, namely:

1. Textual Archives/Paper Records/Paper Based Records/Conventional Records/Human Readable Records/Hard Copy
2. Audio-Visual Archives (Audio-visual Based Records) include static images / still images, moving images / moving images, and sound recordings
3. Cartographic and Architectural Records (Cartographic and Architectural Records)
4. Electronic Archives/Electronic Records/Electronic Based-Records/Computer Records/Machine Readable Records

The method used in this study can be allocated by direct observation to find out the categorization and method. From these observations and recordings, the conclusions of photo data can be categorized to further elaborate on what is behind the event, what prompted a documentary photographer to photograph it, conclusions from the photo, and what treatment methods were used to maintain the archive. The results of this research can enrich the data of the Sonobudoyo Museum so that the accuracy of the archives is even better because it has been categorized. From these cross-period photos, it can be concluded again if the researcher gives recommendations to the museum to publish historical photos of the Sonobudoyo Museum collection on the museum’s official website account so that the public can enjoy and increase knowledge about Indonesia’s national history.

Preventive preservation measures include checking the thickness of dust, smudges, image quality, light, temperature, and humidity, while curative measures include the main categories of restoration, by first entering the process of fumigation, encapsulation, duplication, digitization, and publication both online and digital archiving. The purpose of the preservation efforts carried out by an archive staff with the core goal of how the photo can be long-lived. The process of the initial steps of the photo being obtained from the audience, maintenance, repair, archiving to digitization becomes interesting for re-examination, which enriches the study of the field of the photography profession.

In general, the development of museums does not only use conventional display systems as before, but advanced technology makes museums also update their presentation methods, namely by digital formatting or digitizing archives and rebroadcasting them through the website. Digital preservation involves the process of migrating or changing formats, even emulation, and the creation of a device capable of reading information with the volume variable (Feather 1999, 213). Historical archives are also part of the identity of a nation because of the development of culture, politics, art, and education, therefore museums and their exhibition collections play an important role in the spread of civilization progress.



Fajar Wijianarko (35) and Heru Santoso (30) from the Collection, Conservation and Restoration section of the Sonobudoyo Museum clean up ancient Mataram era manuscripts and magazine articles from the 1920s collection of the Sonobudoyo Museum at the Unit II Building of the Sonobudoyo Museum, Jalan Wijilan, Yogyakarta, before entering the digitization process.

What is interesting about the purpose of this research is that it can help the Sunobudoyo Museum to categorize photos and store them both in physical form and digital files by category. After this research is completed, the author will submit a data recap, recommendations for viewing on the museum's website, and recommendations for processing digital and physical file data storage according to the background of the event. Historical photos are not only studied in several parts but are categorized so that it is easier for people to interpret and digest based on categories that have been made by researchers and agreed upon by the museum. Preservation of photographic works is also a form of long-term research that requires its patience because of the very broad aspects of its work.

Proper handling, storage, or reconstruction of historical photographic material requires special care so this research is expected to provide a new discourse to the public about the breadth of the world of photographic work that is not limited to photographing skills. The various types of characters and methods of preservation can be categorized and calculated with the percentage of the best preservation method according to the photo material used in his time as a conclusion. An archive is a collection of records that are stored systematically so that any time needed can be found quickly (Liang Gie, 2000, 118).



Discussion

1. Archives and Archives (preservation) Archiving is something that must be done by government agencies, as well as private bodies, galleries, museums, offices, and institutions of value. Archiving involves work related to the storage of archives or letters and other office documents. According to Sugiarto and Wahyono (2015, 2),

Archives are the basis for maintaining letters: archives contain the process of compiling and storing documents in such a way so that letters/files can be recovered when needed. The most important properties that must be possessed by an archive system are reliability and accessibility, apart from other properties such as tidiness, cleanliness, and others.

The explanation above is an elaboration of the dynamic archive aspect where data collection means that the archive is a process starting from the creation, receipt, collection, arrangement, control, maintenance, and care and storage of documents according to a certain system which when needed can be found quickly and precisely. Management of dynamic records in a policy using the principle, of archives requires a clear organization of records so that they can be carried out as well as possible in an organization. There are several archives in the office that are well known according to Sugiarto and Wahyono (2015, 19-20).

Centralization is a visual archive management system that is carried out centrally within an organization, or in other words, archive storage that is centralized in a special work unit commonly called a visual archive center. With archive centralization, all official documents that have been processed will be stored in a central archive. Advantages of archive centralization:

- a. Space or storage space, energy and archive equipment can be saved, because in one organization there is one place for managing or storing archives.
- b. Due to being a special unit, officers can concentrate specifically on archival work.
- c. There is no duplication of archives because the office only stores 1 (one) archive.
- d. The storage system of various records can be uniformed, so that the system of storing or classifying records is simpler. However, the centralized system also has weaknesses, namely: the centralized system also has a centralized archive system that is only efficient and effective for small organizations, not all types of records can be stored with one uniform storage system, work units that require archives will take longer to obtain the required files.

2. Documentary Photography The documenting process becomes the main field of the object to be studied by the author, the principles of documentary become a light for various historical recordings in Indonesia so that in the process they are not only recordings of events but if you look back, they will have meanings that will be conveyed for a purpose. According to Soedjono, documentary photography is following the essential nature of photography which functions to record or document something.



Each photo work is done with the principles of documentary photography so that it can provide information about an event that is useful for future generations because each photo is taken based on facts in the field.

Documentary photography is the collection of evidence and facts in the field through existing data using camera media as a means to produce visual products that contain information value. Thus, what is known as documentary photography was born, which is following the essential nature of photography which functions to record or document something (Soedjono, 2007, 133).

The theory above explains that data in the field becomes information data that is not lost over time because generations will be the part who will witness a work of documentation. While the definition of documentary photography contained in books compiled by time-life books:

A depiction of the real world by a photographer whose intent is to communicate something of importance – to make a comment – that will be understood by the viewer (The Editor of Time-Life books, 1975, 2).

The explanation above was made by the research team and editors of Time and Life magazines, emphasizing that a photographer can produce facts in the field to be conveyed to the public so that they can provide information today and in the future and become a medium for opinion. The resulting photos should be understood based on actual events to promote an educational element.

a. The object of the research

The objects of this study will be divided into three main categories which will then be divided through several sub-categories, so that photos can be grouped and calculated to find out what forms of documentation were carried out by previous photographers, what photo techniques were used by previous photographers and what events which was successfully recorded by previous photographers. So by year can be divided into

1. Photographs of the Sonobudoyo Museum with the duration of the 1800s–1920s (colonial category). This category was chosen because in those years the western nations began to introduce photography to Indonesia so that many historical photos began to be documented.
2. Photographs of the Sonobudoyo Museum with a duration of 1920–1947 (independence war category). This category was chosen because, in the category of the war for independence, many Indonesians were already familiar with photography, so every military aggression and documentation of the nation's struggles began to be owned and displayed by museums to this day.
3. Photographs of the Sonobudoyo Museum with the duration from 1947–1970 (development category). Development is a reflection of the history of the nation where in the process the Indonesian people began to be aware of development from the human side based on historical aspects.



4. Sonobudoyo Museum photo care actions based on age and material.
5. Categories based on angle, portrait or non-portrait, events, elements of society, public figures, culture and religion, age, combinations, and so on.

b. Sonobudoyo. Museum Population and Sample

In a study, of course, data is obtained from the object to be studied from all targeted data, while the population is all photos that will be studied by the author with the object of the photo collection of the Sonobudoyo Museum which is divided into 3 theme periods because:

1. Photos to be researched can be grouped based on the year the photo was made so that the year data becomes an important reference for determining the photo category. In this case, what provides reinforcement is that the Sonobudoyo Museum provides reinforcement and accommodates people and communities to enjoy various kinds of historical presentations as an application from Yogyakarta, the city of education so that data and categories can represent the needs of students or historians to study history through the medium of photos.
2. The photos under study are preferably made in Indonesia as a reference for how photography developed in the past. In this case, the strengthening lies in the openness of the public who are starting to become aware of learning about history so that this gives a new color for learning history, not just reading books and attending museums, but seeing past photo works also provides in-depth information.
3. Each photo has a different treatment pattern based on the material or physical material so grouping can be done based on the form of the treatment method. In this case, appreciation for past photographers is also needed because documentary photo works at that time were represented in the development of the world of journalistic documentary photography at that time.

c. Sonobudoyo Museum Data Collection

The data collection techniques used are divided into two categories, namely documentation and literature study:

1. Documentation, in this method, is defined as a form of secondary data collection because the form of official archival documents, such as writing, documents can help researchers find out the actual state of reality that occurred at that time such as cultural records that developed in an area that had succeeded documented by previous photographers.
2. Literature study, the source of this data was obtained by researchers from pre-existing files such as opinion quotes, theories, photo works, photos published in the media, journals, and bulletins making it easier to research and references must be relevant to the concept of research, data, and interviews with the archives to support in terms of literature review and theoretical basis for an archivist and researcher.



3. Interviews, to complete data such as year and background of events, it is necessary to conduct interviews by archive staff that it is hoped that in addition to caption data and digital information attached to photos, interview data is expected to strengthen the background of events as supporting data.

d. Data Analysis Technique

In each research, various aspects of detail must be experienced to obtain appropriate results, one of which is the unit of analysis and categorization. Both are from the visual form, namely the theme of the photo, angle, and year. From the coverage of these aspects, it will be calculated in terms of quantitative to get the basic categorization results to find out the message content of photo research. Data analysis techniques are often used in processing research whose data structure is classified as qualitative descriptive analysis. The form of textual data makes these units meet the requirements to know the categories in the data processing. The form of archiving is not only limited to coding but in general, one must also pay attention to what criteria are relevant for curating a photo, including:

1. Selection stage a. Selecting photo archives that are worth saving, namely photos that have information quality and image quality categories.
2. Stage of description a. Description is a record based on archivist characteristics that describe the information and physical condition of the photo archive. Discrimination is done by using a description card. Things to note include number, subject/event/problem, index, caption/image description, the origin of the archive, photographer, negative number, exposure number, type, textual archive code, size, and description.

Unit of Analysis I

Category	Subcategory
Based on Year	1. Photos of the Sonobudoyo Museum with a duration of 1800–1920 (colonial category) 2. Photos of the Sonobudoyo Museum with a duration of 1920–1947 (independence war category) 3. Photos of the Sonobudoyo Museum with the duration from 1947–1970 (nation building category)
Category Based on Angle	1. Portrait 2. Non-Portrait 3. Combination
Events	1. Culture and Religion 2. Age

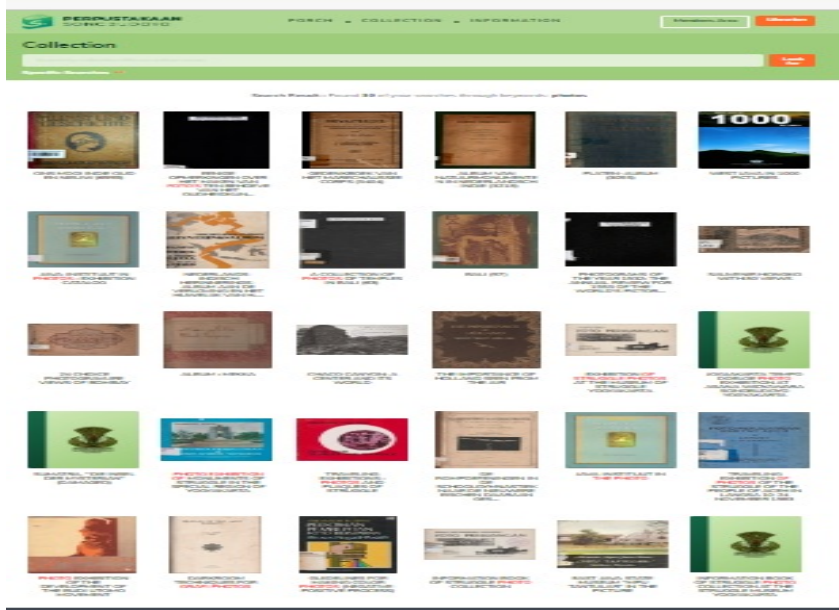


	<ol style="list-style-type: none">3. Politics4. Military Aggression5. Combination
Elements of Society	<ol style="list-style-type: none">1. Public Figure2. Non-Public Figure3. Combination Object
Background	<ol style="list-style-type: none">1. Economy2. Social3. Culture and Religion4. Education5. Combination
Gender	<ol style="list-style-type: none">1. Male2. Woman
Photo Treatment	<ol style="list-style-type: none">1. Chemistry2. Non-Chemical3. Combination

Unit of Analysis II

Category	Subcategory
Based on Year	<ol style="list-style-type: none">1. Photos of the Sonobudoyo Museum with the duration of the 1800s–1920s (colonial category)2. Photos of the Sonobudoyo Museum with a duration of 1920–1947 (independence war category)3. Photos of the Sonobudoyo Museum with the duration from 1947–1970 (nation-building category)

From the data grouping above, we can conclude these categories facilitate the archiving and uploading process to the Sonobudoyo Museum website in the form of a catalog or photo book. The majority of those who access the website services are students, so the division of these categories makes it easier for students to group the background stories by year.



Display photo albums or Sonobudoyo Museum catalogs that have been published on the official website page

e. Physical Treatment Application

In this study, we can conclude that the archivist's performance is not only physical care but also counting and archiving the photos. Like what researchers did by coding to help formulate trends in photo content that developed at that time. So the division of photo archives can be divided into two things, namely:

1. Archive photos as static images because photography is part of an audio-visual archive, namely an archive whose information is in the form of still visuals. Photo archives are archives born from shooting results in the form of film negatives, digital photos, as well as positive images or prints that are worth keeping.

Printed photo archives and negative photos, both in the form of cliches and digital files, they have different characteristics, so processing and managing them is also different according to the nature and form of the material/media. As with other types of archives, the existence of photo archives also begins with the creation and then use and maintenance, and after the archive is rarely used for operational purposes, the organization needs to be transferred to an authorized unit for further maintenance, data collection and archiving for educational needs.



A photo entitled *Minang Women* has been pasted on paper and a mold-proof envelope.
Photo was taken in 1919–1920. Java Institute Source

2. Management of digital photo archives consisting of positive and negative photos and digital photos including creation, arrangement, maintenance, depreciation, and service/presentation. Especially for photo archives that have entered an inactive period, the processing is carried out which includes several stages, namely survey, selection, description, scheme preparation, numbering, storage in envelopes, arrangement in photo archive boxes, and compilation of photo archive lists.



Examples of photos that are damaged and difficult to restore. Java Institute at Sonobudoyo, 1939
(Source; Sonobudoyo Museum Archives)



Examples of photos that are damaged and difficult to restore. Kecak Dance, 1890
(Source; Sonobudoyo Museum Archives)

3. Before processing inactive photo archives, initial data collection is carried out, namely data collection activities on photo archives that will be handled using survey blanks. If the data collection is carried out in several work units and the number of archives is large, the results of the survey are recorded in the list of archives. The list of archives is used as a reference in planning the resources needed in processing photo archives.
4. When the photos have been archived, they are put in a special box to maintain their durability with the following steps:
 - a. Photos are stored in envelopes that have been numbered and arranged according to the serial number in the list using the photo box.
 - b. The storage between photo archives and photo negatives is separated with each one made a separate list.
 - c. Each photo envelope is used to store one photo or one photo negative.
 - d. Negative master files are stored in acid-free envelopes.
 - e. Arrangement of envelopes based on themes and sub-themes or detailed themes according to the scheme that has been made.
 - f. Photo boxes are arranged on shelves or rolled in order.
5. In addition to archiving in physical form, digital archiving is also carried out through files that have been scanned and posted via www.sonobudoyo.com so that the public can access them without having to come to the museum, much different from the arrangement of other photo archives, namely with the following conditions:
 - a. Perform the scan process with computer and scanner devices
 - b. Each photo at the bottom is given a description and then uploaded
 - c. Photos are grouped according to the theme
6. Physical archiving is also needed for various purposes, one of which is physical research, archiving and others. Maintaining photo archives is basically not much differ-



ent from other types of archives. Some things that need to be considered in maintaining photo archives include:

- a. Store photo archives in a cool, non-humid and dry environment.
 - b. Photo albums and negative photo albums should not be stored near incandescent lamps and should not be exposed to direct sunlight.
 - c. Save photos in a clean place free of insects and dust.
 - d. Lighting: use incandescent lamps or lamps that are given an ultraviolet filter or using TL lamps containing low ultraviolet light.
 - e. Perform air filtration and regular cleaning/maintenance to reduce the amount of dust and dirt present in the air in the storage environment.
 - f. Do not keep a photo archive in a room that has just been painted with oil paint before 6 weeks, or steam paint until it is completely gone.
 - g. Check and clean the photos stored in albums made of plastic at least once a month, because the photos will be sticky and moldy quickly.
 - h. Store photos in a room with a humidity level of 40%-50%, with a temperature between 10-15 degrees Centigrade.
 - i. Carry out photo handling safely, namely by: protect photos from direct finger touch, use thin nylon or white cotton gloves by holding the side of the photo.
 - j. Avoid food or drink that can attract insects or rodents in the archive processing area.
 - k. Minimize the light so that photos are not easily faded and damaged.
 - l. Avoid writing in the photo section.
 - m. Avoid damage during reproduction.
 - n. Avoid photo damage during duplication.
7. Obstacles to Digitalization of Photo Archiving at the Sonobudoyo Museum Implementation of digitization activities carried out by each institution often has to find a solution such as some of the obstacles that must be faced by the agency, as well as archiving historical photos:
- a. Limited airtight and sterile storage space makes digitization one of the solutions for solving the problem of limited space storage.
 - b. The limitation of manpower is one of the digitization problems.
 - c. Advanced equipment that supports restoration.
 - d. The number of archive collections is quite a lot and always increasing.
 - e. Metadata from photo archives digitized due to lack of information, there are still photos with metadata less so you have to look for information first about the photo.



From this, the Sonobudoyo Museum categorizes visual archives as a dynamic form of archiving based on archive centralization. However, the availability of sophisticated equipment is still a barrier to carrying out reconstruction with simple tools before entering the data collection and scanner process without the risk of damage. The use of chemical liquids in computer equipment cannot be separated because photo works will not be published before getting repairs and data collection.

Conclusion

Each museum has a different treatment method depending on the funding and availability of existing human resources, but more importantly how the Sonoculture Museum has gradually published well to the public through the Website media publication method. Dynamic visual media archiving uses the dating method and historical tracking records so that the source of the photo participates in tracking the time to identify the year the photo was made. However, very careful archiving should be coupled with sophisticated reconstruction equipment because the older the visual archive the more it will require extra care.

The archiving method is carried out by collecting data on years, materials, treatment methods, duplication or digital scans, and publications are carried out in stages so that the distance between photo archive discovery and publication takes a long time. The digitization process makes it easy for the public to access and obtain knowledge and museums play an important role in re-recording history.

Digitization is carried out by Sonobudoyo Museum to provide benefits in the context of preserving historical objects and disseminating information to the public. The benefits of digitizing archives also provide convenience for visitors to access the photo archive collection owned by Sonobudoyo Museum and help distribute photo archive collections owned by the museum and help save photo archives with historical value and useful information content.

There are still many photo archives in foreign museums, so the government should be able to withdraw them or request duplication so that the nation's historical archives can be presented sequentially. This must also be balanced with the existence of more modern supporting equipment because the reconstruction materials are mostly produced abroad and must be purchased at very high prices with the budget of the museum or government institutions. Recording the history of the nation is very important because the actualization value of events can be passed on to posterity and future generations to further foster a sense of love for the homeland through the medium of photographic works to record traces of the history of the founding of a nation.

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