

The Conservation of a Photographic Album: *Souvenir de Straits Settlement Singapore Malacca Penang* (c.1870)

By Paula Carolina Leon Bravo, Conservator (Paper)

Introduction

The photographic album *Souvenir de Straits Settlement Singapore Malacca Penang* from A. Schlesselman¹ came to the conservation laboratory as part of a collection of prints, photographs, books and bound materials selected for the exhibition *The Image of Our Landscape*, held at the National Museum of Singapore from September 2009 to January 2010.

The album was assessed and evaluated to be in a structurally weakened condition, resulting in the detachment of a large number of its leaves. Fortunately, none of the album's leaves appeared to be missing. However, it was difficult to follow the connection of the leaves because most of the album's binding attachment was broken.

The album is one of the few complete documents of its type within the collection of the National Heritage Board (NHB). Quite often, historical albums lose their leaves or are intentionally dismantled, due to the higher market value of a single sheet albumen print. The relative scarcity of complete albums within their original bindings makes the *Souvenir de Straits Settlement Singapore Malacca Penang* a rare photographic document (Fig. 1).

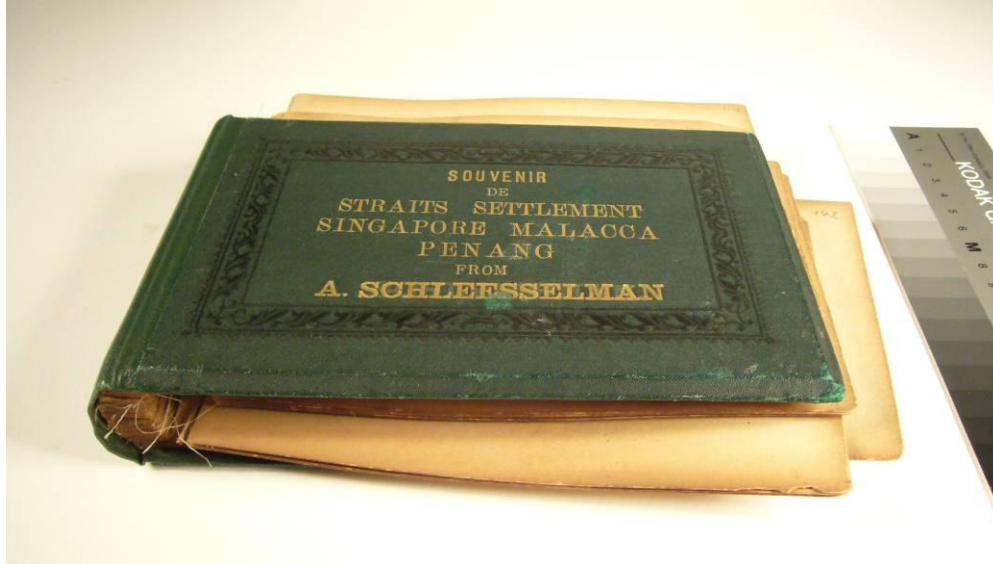


Fig 1: Front of the album before conservation treatment

Historical Background

The photographs contained within the album are all *albumen prints*². Albumen prints were invented in 1850 by Louis-Désiré Blanquart-Evrard and until about 1890 it was the most prevalent type of print. The only significant disadvantage of this photographic process was the thin paper support of the print that was prone to curling. Four years later, André Adolphe

Eugène Disdéri, transformed the industry and fashion with the *carte-de-visite*³. Its popularity soon spread across Europe.

The desire to display a collection of photographs together prompted the introduction of the first photographic album in 1860. The first album had an accordion structure, bound in 12 parts and containing 24 photographs in *carte-de-visite* format, the Leporrello.

The fashionable format soon reached Singapore, where since the mid-19th century a number of foreign photographers, many of them German, had established photographic studios. One can see the European vision of the East through portraits of racial types and customs, sometimes photographed in a studio and others in the field, showing the “true” un-posed lifestyle from these exotic places.

... European colonial expansion, the growth of scientific research, the study of anthropology and ethnology, and exploring expeditions all found in photography an invaluable medium for bringing back accurate records of distant lands hitherto known only through written description and artists' impressions.

... Two other photographers of note were also active in the mid-1870s, both of whom used Singapore as their main base from which to visit outlying locations. The first of these, Henry Schuren... [] ...It was during his absence in Manila for the most of 1875 that his place was taken in Singapore by G.A. Schleesselman, who opened a studio at 30 Orchard Road on 20th March and offered a series of photographs indicating a previous lengthy tour of the Straits Settlements, Perak, Selangor and Johore...[]... Schleesselman himself was not to remain in Singapore for any great length of time, departing after the auctioning of the contents of his house in High Street in June 1877.⁴

With the growth of international trade through Singapore's bustling port, business opportunities flourished for professional photographers. Practitioners such as G.R. Lambert & Co, the longest surviving firm in Singapore, re-opened his studio in 1877 in the premises previously occupied by G.A. Schleesselman.⁵ During this period, photography had reached virtually every corner of the globe, with a growing demand for custom-made albums.

The photographs in this album are of a similar format to *carte-de-visite*, which is rare to find mounted direct on the leaves of an album. Normally, *carte-de-visite* would comprise of single portrait photograph pasted onto a rigid card. Album leaves would often have a window where a *carte-de-visite* would slide in. This album is the second oldest in the collection of the National Heritage Board. It contains portraits of Nyonyas, Chinese merchants, Chinese graves, as well as landscape scenes.

Album Structure and Materials

Albums⁶ are made from a variety of materials that often relate to their period of production. They are essentially comprised of a bound volume of blank paper that is designed to accommodate a compilation of different sized and formatted two-dimensional objects.

The method of connecting the leaves to the cover defines the album structure. Most albums have a separate piece of cardboard called stub, which makes the connection to the leaves and

allows them to be opened wider. This type of album is called “guarded leaf”, where a fabric strip makes the connection from the stub to the leaves (Fig. 2). In other albums, the leaves can be sewn or glued together.

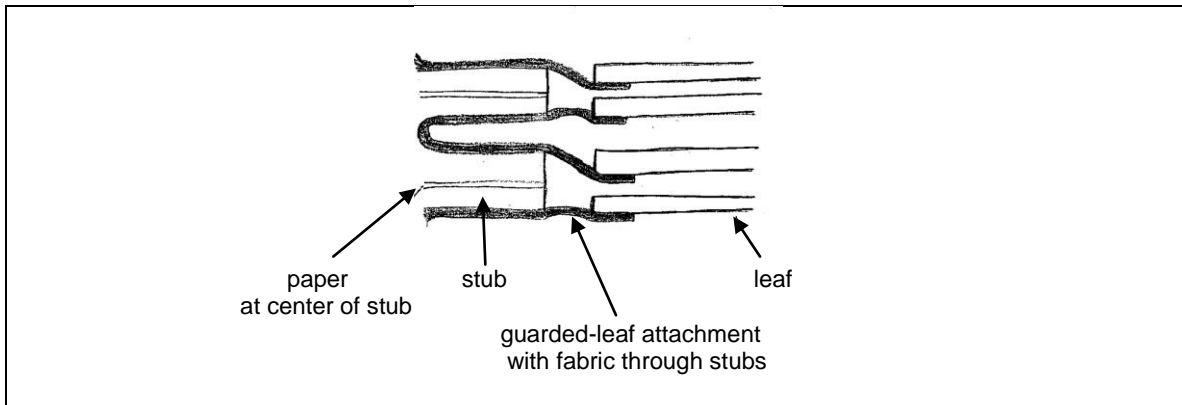


Fig. 2: Diagram showing the connection of the leaves to the stub

Materials used in the making of photographic albums are usually not of the highest quality; they are commonly inexpensive bindings that are mass produced. Damages occur often at the spine or hinges because of excessive or careless handling and low quality materials. When the spine weakens, the sewing can break, leaves can become loose and the whole album is put at risk of structural failure.

The *Souvenir de Straits Settlement* is a small photographic album (H.12.6 x W.19.2 x Th.3.5cm) with 14 stubs, 26 leaves and a single endpaper. Each stub holds 2 leaves, but the first and last stub holds 1 leaf and the endpaper.

Leaves are made from a 0.5mm thin machine-made cardboard, the stubs are made from a 2.0mm thicker cardboard, and the endpaper is made of machine-made paper. The cardboard contains lignin⁷ which has chemically degraded and weakened the paper fibers. Most of the leaves were detached or loose because the fabric attachment at the stub-leaf-connection was broken or had frayed-out. All of the leaves had overall undulation, superficial dirt and some contained minor tears or detached fragments. There was also minor foxing⁸ stains, discoloration, darkening and brittleness along the edges (Fig. 3-5).

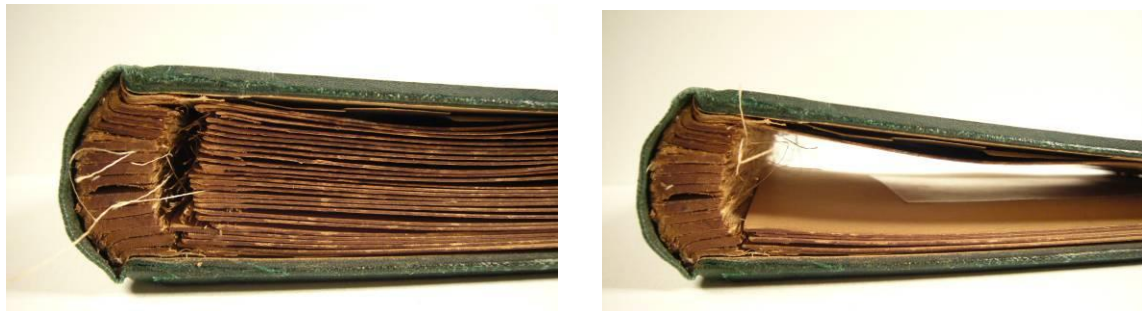


Fig. 3: (Left) Broken stub-leaf connection; (Right) detail without the leaves



Fig. 4: Detached leaves from the stub



Fig. 5: (Left) Brittle, torn and discolored endpaper; (Right) overall undulation and darkening along the edges

The binding structure is a case⁹ made of beveled binders board covered in a one-piece green fabric. The title at the front cover has gold and blind tooling decoration along the edges, whilst the back has just blind tooling. The spine is a *hollow back*¹⁰ visible when open. The corners were bent and delaminated; the fabric of the covering material was frayed-out and abraded in a few areas especially the corners and fore-edges (Fig. 6).



Fig. 6: (Left) Hollow back visible when open; (Right) detail of beveled and damaged corner

There are 54 albumen prints fully adhered to both sides of the album's leaves. Photographs are in direct contact with each other, promoting the direct transfer of chemical and biological degradation products. Most prints are 5.6 x 9.0 (cm) a similar size to carte-de-visite (6.4 x 11.4

cm). There are a few bigger sizes up to 11.6 x 16.5cm trimmed to fit into the album format. Types of damage to the prints include: colour fading, yellowing of the albumen layer, foxing stains, and transfer of stains from the opposite photograph (Fig. 7-8).



Fig. 7: (Left) Trimmed photograph to fit the album size; (Right) fading of colour



Fig. 8: (Left) Transfer stain from the opposite photograph; foxing stains on the paper and the print

Conservation Treatment

Materials can quickly deteriorate within uncontrolled environmental conditions such as prolonged exposure to light, unstable levels of relative humidity and temperature, but also from former repairs that were undertaken using unsuitable materials (e.g. adhesive tape). Indeed, many conservation treatments often start by undoing former repairs that have contributed to damage. In this album, the first and last leaves were detached from the text block. Fortunately, somebody used self-adhesive cloth tape to avoid losing the leaves. However, the well intentioned repair has had a damaging effect on the paper due to the type of glue found on the tape. It was possible by analyzing the condition of the tape to determine that the “repair” had been undertaken not so long ago, which made the treatment of removing the tape easier. Strips of tape were located at the inner hinge and over the endpaper. The tape adhesive was softened with a heated spatula and the tape cloths were removed mechanically (Fig. 9).



Fig. 9: (Left) Self-adhesive cloth tape at inner hinge; (Right) removing the tape with heated spatula

Dirt was accumulated on the surface of the leaves, so it was necessary to clean before the dirt could migrate to the photograph. Cleaning was done only on the surface of the paper with a soft brush and eraser (Fig. 10).



Fig. 10: (Left) Cleaning paper support with conservation eraser; (Right) detail from cleaned/ uncleaned area

All of the leaves had a strip from the original fabric connection at one edge. Some parts of this fabric were folded, detached or loose from the paper support. Loose and detached fabric and thread were consolidated with wheat starch paste (WSP) and a small brush. Folded fabric was carefully unfolded and flattened with a light glass weight and pasted down with WSP (Fig. 11-12).



Fig. 11: (Left) Original fabric at one edge; (Right) unfolding the fabric and flattening with light glass weight



Fig. 12: (Left) loose and detached fabric before treatment; (Right) same leaves after treatment

Simple tears and detached fragments of the paper support were treated with a mixture of two adhesives: PVA (poly vinyl acetate) and MC (methyl cellulose) in a proportion of 1:1. When it was needed, a small piece of toned¹¹ Japanese paper was used to reinforce weak areas, for instance, a corner (Fig. 13-14).

If part of the paper support was missing, a new Japanese paper was used to replace the missing area, built up to the same thickness and colour matched to the original area. In some cases an area of loss required more than one layer of paper for support.



Fig. 13: (Left) Detached fragment; (Right) fragment mended with PVA/MC mix



Fig. 14: (Left) Fragment adhered with PVA/MC mix; (Right) same fragment reinforced with toned Japanese paper

Re-Attaching Leaves

Each of the images had been accessioned with a number written in graphite at the bottom right corner outside the photograph. This system aided the correlation of the images when re-attaching the leaves back to their original location. All of the leaves had been originally attached to the stub through a series of fabric strips that had broken. By studying fragmentary evidence of this system it was possible to determine the former method of connection.

Two proposals were formulated to reattach the leaves to the stub:

1. The first option attempted to add a new material underneath the fabric in order to reinforce the original attachment. Unfortunately, this approach proved unsuccessful due to the difficulty of lifting the fabric without causing damage to the paper leaf. An alternative method of lifting the fabric with a thin layer of paper was also tested unsuccessfully.
2. The second option identified a way to add a new material at the opposite side of the fabric (album leaves). This method ensured that the original fabric remained intact, whilst providing a new material to provide a flexible and strong connection. The stub was split along its center in order to insert the new material (Fig.15). This option proved the most successful and was selected as the treatment method.

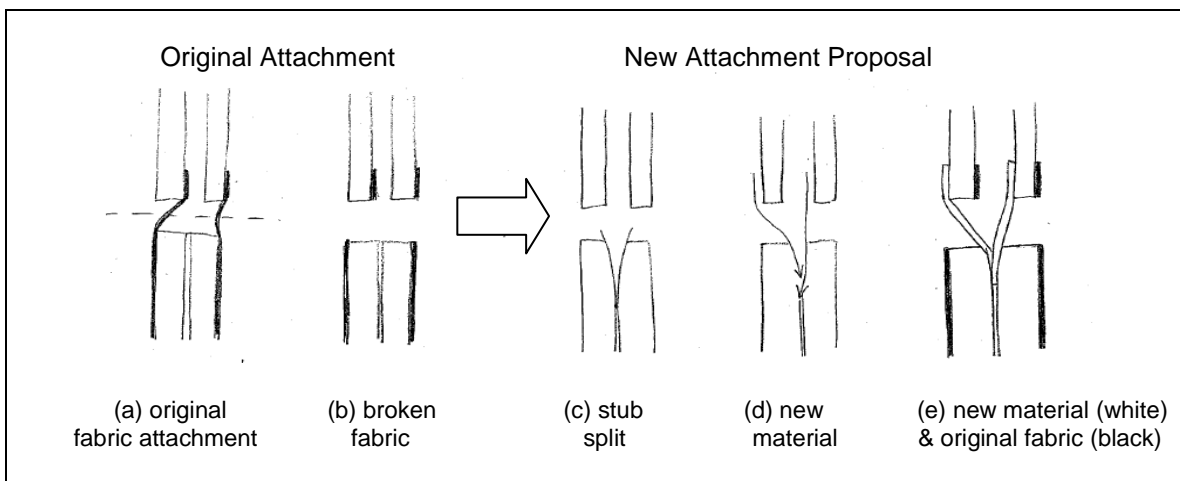


Fig. 15: Diagram of the (a) original fabric attachment, and (b) broken fabric. The attachment proposal includes (c) split the stub, (d) add a new paper into the stub, and (e) reattach the leaves keeping the original attachment intact

After all of the leaves had been treated, a variety of different papers were tested for the new attachment. For the strength needed a thin Kozo¹² paper was chosen. In order to match the colour of the leaves the Kozo paper was toned with acrylic paints. All leaves were reinforced with this Japanese paper, providing a 1cm border along the effected edge (Fig.16). After drying, pairs of leaves were adhered together with WSP following the sequence of the album (Fig. 16-17).



Fig. 16: (Left) All leaves were reinforced with Japanese paper; (Right) adhered at 1cm over at the edge opposite the original fabric



Fig. 17: (Left) Pairs of leaves were adhered together with WSP; (Right) detail of block finished

Stubs were split at the center (paper area) with a small knife so the pair of leaves could slide-in and be pasted with WSP. Each stub held two leaves, except the first and last stubs which held a single leaf and endpaper (Fig. 18-19).

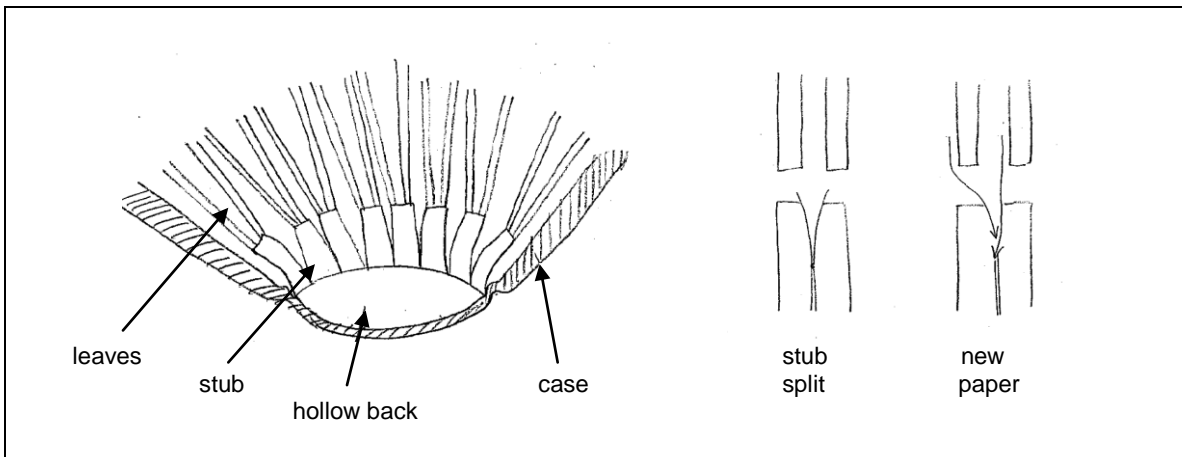


Fig. 18: Diagram of stub-leaf connection and splitting of stub so the new paper can be inserted



Fig. 19: (Left) Stub split at center with a knife; (Right) pair of leaves sliding-in

The first and last stubs were previously attached to the block only with two cloth tapes. These stubs were cleaned and then reattached through a strip of Japanese paper to the inner hinge at the pastedown. The first leaf was also re-attached to the stub with Japanese paper and WSP. This process was done to all the leaves in the album (Fig. 20-21).



Fig. 20: (Left) Stub and first leaf detached from the block; (Right) stub and first leaf re-attached



Fig. 21: Attaching more leaves to stubs

The original endpaper was very brittle and damaged with tears, losses, darkening and foxing stains. It was replaced with a new western paper, trimmed to fit the leaves size and colored with acrylic paints to match the original endpaper colour. After all the leaves were reattached back in order, the new endpaper was adhered to the inner hinge at the joint with an extra 1 cm extension over the pastedown to provide more strength (Fig. 22).



Fig. 22: (Left) Original endpaper; (Right) new endpaper

To protect the albumen prints from having direct contact with each other, interleaving paper was placed as a barrier and protection between the leaves. Final areas of treatment included consolidating damaged areas of the cover with WSP and a small brush. The album could now be handled and displayed for exhibition.

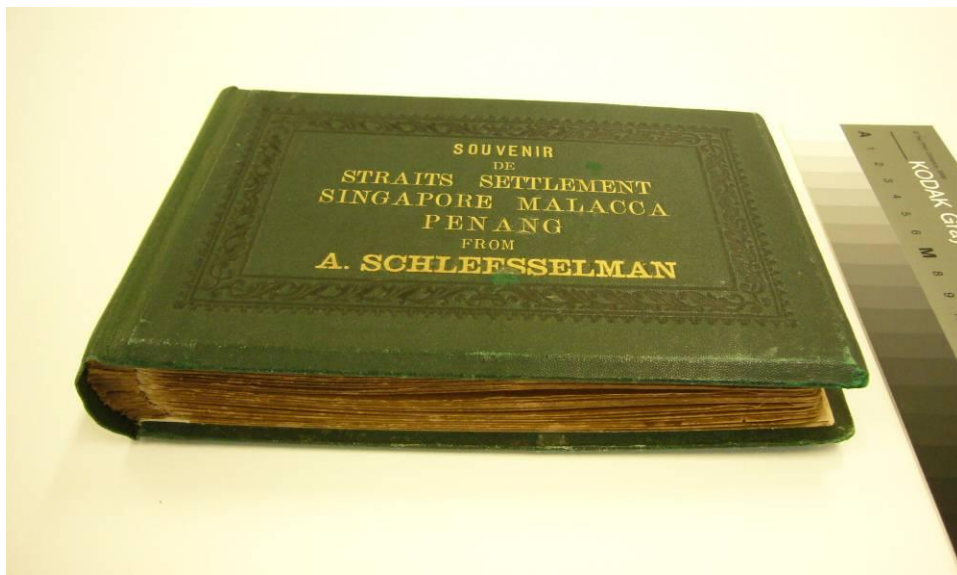




Fig. 23: After conservation treatment: (Top) front of the album; (Middle) album closed; (Bottom) album open

Conclusion

The condition of the album before treatment inhibited its use as a study object and prevented it from being exhibited. The only advantage of having the leaves detached from the case was to reproduce the images without causing stress on the spine when opening.

Album structures where the fabric attaches the stub to the leaves often fail due to inherent weakness of the textile. That was the case with this album. Poor quality materials have a shorter life-span and require monitoring to evaluate their condition. The structure of the album is now restored, bringing back its historical value and improving its material condition and future preservation.

After the conservation treatment, the album *Souvenir de Straits Settlement Singapore Malacca Penang* was displayed in the exhibition *The Image of Our Landscape* at the National Museum of Singapore.

Bibliography

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Notes to the Text

¹ “G.A. Schleesselmann opens photographic studio at 30 Orchard Road, Singapore, 20 March 1875; takes over studio of Henry Schuren at 89 High Street, Singapore, 1 December 1875, having purchased Schuren’s negatives at auction; photographic expedition to Deli, Sumatra, 1876, returning to Singapore, January 1877; household affects sold by auction, 27 June 1877; Moses & Co. advertising that they have acquired Schleesselmann’s negatives, 3 January 1878.” Falconer, John. *A Vision of the Past, A History of Early Photography in Singapore and Malaya, The Photographs of G.R. Lambert & Co., 1880-1910*, Times Editions (Singapore:1987) p. 191.

² “An albumen print was made by floating a sheet of thin paper on a bath of egg white containing salt, which had been whisked, allowed to subside, and filtered. This produced a smooth surface, the pores of the paper having been filled by the albumen. After drying, the albumenized paper was sensitized by floating it on a bath of silver nitrate solution or brushing on the same solution. The paper was again dried, but this time in the dark. (The salt and silver nitrate combined to form a light-sensitive silver salts.) This doubly coated paper was put into a wooden, hinged-back frame, in contact with a negative, usually made of glass but occasionally of waxed paper; it was then placed in the sun to print. The progress of the printing could be checked by carefully opening the back of the frame. After printing, which sometimes required only a few minutes but could take an hour or more, the resultant proof, still unstable, was fixed by immersing it in a solution of hyposulfite of soda (“hypo”) and water and then thoroughly washed to prevent further chemical reactions. The print was then dried.” Baldwin, Gordon. *Looking at Photographs, A Guide to Technical Terms*. The J. Paul Getty Museum (California:1991) p.7.

³ “A Carte-de-visite is a stiff piece of card measuring about 4 ½ by 2 ½ inches (11.4 by 6.4 cm), the size of a formal visiting card of the 1850s (hence the name), with an attached photograph of nearly the same size. Patented in 1854 by A.A.E. Disderi (1819-1889) and popularized by him in the following decade, cartes normally bore carefully posed full-length studio portraits, often of celebrities...” Baldwin, Gordon (California:1991) p.22

⁴ Falconer, John. (Singapore:1987) p. 6, 25, 26.

⁵ Ibid, p. 30.

⁶ Album: “1. A book of envelopes or jackets, usually with a decorative cover and often with descriptive notes. It is intended to contain phonograph records. 2. A book of blank leaves designed to contain written records, clippings, postage stamps, and the like.” Roberts, Matt T., and Don Etherington. *Bookbinding and the Conservation of Books: A Dictionary of Descriptive Terminology*. Electronic edition, 1994 (taken from COOL: Lexical and Classification Resources at <http://palimpsest.stanford.edu/lex/index.html>)

⁷ Lignin: “A highly polymeric material occurring with cellulose in plant material, and which is considered to be largely responsible for the strength of the wood. Lignin is usually determined as the residue left on hydrolysis of the plant material with strong acids after resins, waxes, tannins, and other extractives have been removed.” Roberts and Etherington, Electronic edition, 1994.

⁸ Foxing: “This term refers to brownish spots in paper. They are caused by fungus, bacteria, and/or chemical or metallic impurities introduced in the paper-manufacturing process, which, when exposed to atmospheric moisture over time, cause staining in the paper and sometimes thereby on the photograph made on or mounted to that paper.” Baldwin, Gordon. (California:1991) p. 48

⁹ Case Binding: “A general term for a method of bookbinding, introduced in Great Britain in the 1820s. in which the case (covers) of the book is made separately (and, in edition binding, usually in large numbers) from the book (the text block and endpapers) and later attached to it by gluing the board papers of the text block to the inside of the boards of the case. This operation is known as casing-in.” Roberts and Etherington, Electronic edition, 1994.

¹⁰ Hollow Back (hollow back binding): “A binding having a space between the spine of the text block and the spine of the cover. resulting from the covering material being attached at the joints (or a one-piece cover in the style of a case binding) and not glued to the spine of the text block.” Roberts and Etherington, Electronic edition, 1994.

¹¹ Toning paper means changing the natural colour of the paper after it is made. In conservation, the toning of a paper is often done in a water bath with acrylic colours. Most used colours are earth, sepias and ochre. The intention is to match the “antique” look of the original paper so that the new paper introduced as a mend will be less visually disturbing.

¹² Kozo papers come from Mulberry trees, an Asiatic tree, *Broussonetia papyrifera*. Kozo (Mulberry) bark is used in approximately 90% of the washi made today. Kozo was originally found in the mountain wilderness of Shikoku and Kyusu Islands. It became a cultivated plant used especially for paper and cloth making. It is a deciduous shrub that grows to a height of 3 - 5 meters with the stem measuring up to 10cm across.” http://www.hiromipaper.com/hpi_about_washi.htm