

From China to Cambridge: modification of rare Chinese printed books within Cambridge College libraries

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Abstract:

Early Chinese printed books have commonly been rebound in western style or otherwise modified as they arrived in western libraries frequently resulting in the loss of some of the books' original features. When acquired by or donated to libraries en masse, these books tended to be rebound or restored in a similar manner across collections that reflected the style at the time of donation. Here I describe a survey of Chinese printed books from the college libraries of the University of Cambridge revealing a wide variety of approaches to their conservation associated with the sporadic nature of the acquisition of these books and the lack of a coherent policy for re-binding/conserving them. The material evidence found on the bindings, boxes and attached notes of these books reveals unique elements of history, ownership and status of the books, which echoes the foundation and growth of library collections supported by donations from prominent historic personalities. The conservation of the original Chinese material and later western additions poses material and ethical challenges as the very construction of these hybrid volumes, bringing together elements from two distinct book-making traditions, leads to compromises between materiality and functionality.

Keywords: conservation; Chinese printed books; Western bindings.

Introduction

The presence of Chinese printed books in western libraries is the result of a long tradition of cultural and commercial exchanges between East and West. The rise of western trading companies in the 17th century corresponds to an unprecedented influx of Chinese books to Europe, which soon made their way into libraries through purchase, bequest, and donation.

The University of Cambridge has 31 constituent Colleges each with its own library, the oldest of which was established in 1286. The collections often started from a founder's donation and expanded through further gifts or purchases, mainly of western manuscripts and rare printed books, to support academic activities.

Recently renewed scholarly interest in Chinese printed books has highlighted the need to conserve some of these books. Within the University of Cambridge, the Cambridge Colleges' Conservation Consortium (CCCC) oversees the conservation of books and archives from 13 colleges. In 2016, the CCCC received 15 Chinese printed books for conservation and preservation. The volumes were received in various conditions, from pristine to very degraded.

Conserving these volumes required careful consideration of the marks of their long history as part of western collections. The scope of this study is limited to examples of pre-1700 Chinese codices, with sheets of paper folded in half and bound together, typical of the Ming dynasty period, leaving aside earlier formats of printed books such as scrolls or concertina.

The differences of structure between western and Chinese printed books motivated the modification of early Chinese books kept in College libraries, fundamentally altering the materiality of the volumes. The examination of early Chinese printed books kept in similar collections helps to establish goals and expectations for conservation. Examples of westernized book structures considered here include volumes from Cambridge College Libraries and the University of Cambridge Library, and the Bodleian Library of the University of Oxford. Finally, the conservation strategy of six volumes will be presented, with treatments ranging from rehousing to overall repair.

Differences in book construction. The primary difference between Western and Chinese codices is the opposite opening and reading direction. When laid on a table with the front of the volume facing up, the spine of a Chinese book is on the right and the fore-edge on the left. A second key difference is the type of paper. Chinese handmade paper for printing is characterized by its thinness and flexibility. The paper leaves are xylographed on one side only with the printing ink often showing through on the verso of very thin paper. Due to this thinness and transparency, a page is typically made of a leaf folded vertically with the printed side out, non-printed side towards the inside. The layout of the printed leaf includes a text frame with writing columns distributed left and right of a central column. The page number and the fish tail (a chevron shaped mark) would generally be printed in that central column, indicating exactly where the fold should be. When a book of these pages is assembled, the central folds of the pages are placed at the fore-edge of the book, while the textblock is secured along the spine.

Sewing techniques vary slightly but constant characteristics are the use of holes pierced through the entire thickness of the textblock to fasten pages together along the spine margin. Chinese binding is generally referred to as 'thread binding' however the initial sewing of a newly printed textblock would be made of paper fasteners, either short paper pegs, or longer rolled and twisted paper links. These paper fasteners are characteristic of the 'rough binding', which holds the volume together before the addition of two distinct, flexible, back and front covers made of paper or cloth. There are numerous variations in style but the covers' key characteristic is flexibility as opposed to hard boards commonly used in western bookbinding. A limitation to the thread binding technique is that it is only adapted to fasten relatively thin textblocks, around 10 or 15 mm thick. A complete Chinese book would often be composed of a series of thin books or fascicules bound distinctively, held together in a separate protective rigid wrapper made of board, covered with textile and paper (see Figs. 1 – 3). Books would be stored horizontally with the title or volume number commonly handwritten on the tail edge. The wrap-around traditional housing for Chinese books fulfills some of the function of hardboard in western bookbinding: they protect and rigidify the book,

keeping the pages tightly closed.



Fig. 1: Fascicle from a Chinese printed book, covered with brown paper and sewn along the spine with silk thread passed through four stabbed holes. The title is printed on a white paper label adhered to the front cover.



Figs. 2: a) The complete book from St John College Library comprises six fascicles. b) A blue, textile-covered wrapper holds together the fascicles in a).

Common modifications to Chinese books

Close examination of early Chinese printed books from the Cambridge College libraries revealed that each had been modified by western hands. The degree of modification ranged from the simple additions of annotations, shelf-marks or bookplates to paper repairs and complete rebinding. These modifications often disregarded some original features of the Chinese book, compromising functionality while offering some degree of protection to the paper pages.

The misinterpretation of the direction of reading often resulted in misplaced addendum. Confusion between head and tail was also common, which can be explained by the difference of layout of the printed page. Chinese books generally have larger blank margins above the text frames while in the west margins tend to be more generous at tail. Consequently, ex-libris, annotations, bookplates, or new bindings often ended up being placed upside down or at the end instead of the front of the book by custodians unfamiliar with the specificities of Chinese volumes.

Bookplates and paper repairs. Added paper repairs and book-plates can be grouped by their materiality: stiff, western paper and adhesive were attached to the thin Chinese paper, causing networks of creases, sometimes tears, and planar distortion to the original. If poor paper repairs are generally considered undesirable, bookplates might reveal provenance and other significant aspect of the history of the ownership. Volume DD.10.4 from the University Library, a literature book from 1633, displays a rather large bookplate, unsympathetic to the original and adhered upside down over the blank columns of a page (see Fig. 3). The bookplate however informs of the provenance of the book, as it was engraved in 1736 by John Pine to be placed in the thirty thousand volumes that King George I had given to the University of Cambridge in 1715. The volume previously came from the personal collection of a prominent bibliophile of his time, Bishop John Moore (1646 - 1714) who had been a student at Clare College, Cambridge. The royal gift was substantial as it more than doubled the University Library holding, and politically significant as it demonstrated the King's recognition and support of the University¹.



Fig. 3: DD.10.4, p.2, Cambridge University Library. The large bookplate placed upside down reveals the provenance from the royal collection. It reads: ‘Georgius D.G.Mag.Br.Fr. et Hib. Rex F.D. Munificentia Regia 1715’ [*George I by the Grace of God King of Great Britain, France & Ireland, Defender of the Faith, Royal Munificence*]

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Edge trimming. Sections of western books tend to be folded and sewn along the spine to the left hand-side. Conversely, the pages of Chinese books are folded along the fore-edge to the left and sewn along the spine to the right hand-side. The naïve transposition of western practices to Chinese printed books resulted in the uncut fore-edge of Chinese books being cut opened or trimmed before Chinese volumes were given a western binding. In these cases, the original format is lost, and the thin, single layer paper pages are vulnerable to further damage (see Fig. 4).

¹ University Library website, accessed 27 June 2017 <http://www.lib.cam.ac.uk/about-library/history-cambridge-university-library>

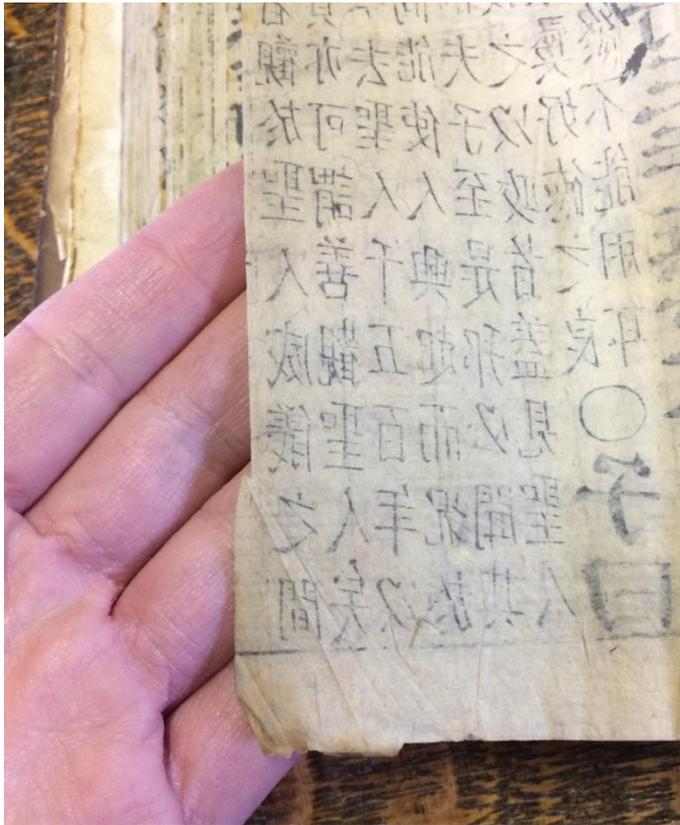


Fig. 4: Detail of the lower corner of volume DD.3.9 from Christ's College, a book on the Discourses or Analects of Confucius. The zig-zag shape along both edges of this page is the evidence of edge trimming before binding. This tail corner was inadvertently folded before the fore-edge fold was trimmed. Blade marks were also visible across the fore-edge of this book.

Sewing. A common repair to a broken or damaged sewing structure is the use of new sewing thread to consolidate or replace the old one. Chinese books were originally bound in such manner that the protective covers held in place by silk sewing thread could be easily dismantled and replaced without dismantling the textblock, primarily held with paper fasteners. The covers were typically thicker than the printed paper. They provided some degree of mechanical resistance to the cutting effect of the sewing thread, thus protecting the printed paper beneath.

In the absence of cover, the first page of the fascicule showed in Fig. 5 became heavily damaged by the sewing thread, which enlarged holes and caused some tears. This fascicule displays a peculiar repair to the sewing. On the spine edge of the textblock, old sewing holes had been reused to implement a thread-binding repair using parchment thread at tail. The use of parchment, a material typical of western book making tradition, illustrates the crossover nature of the conservation history of this book.



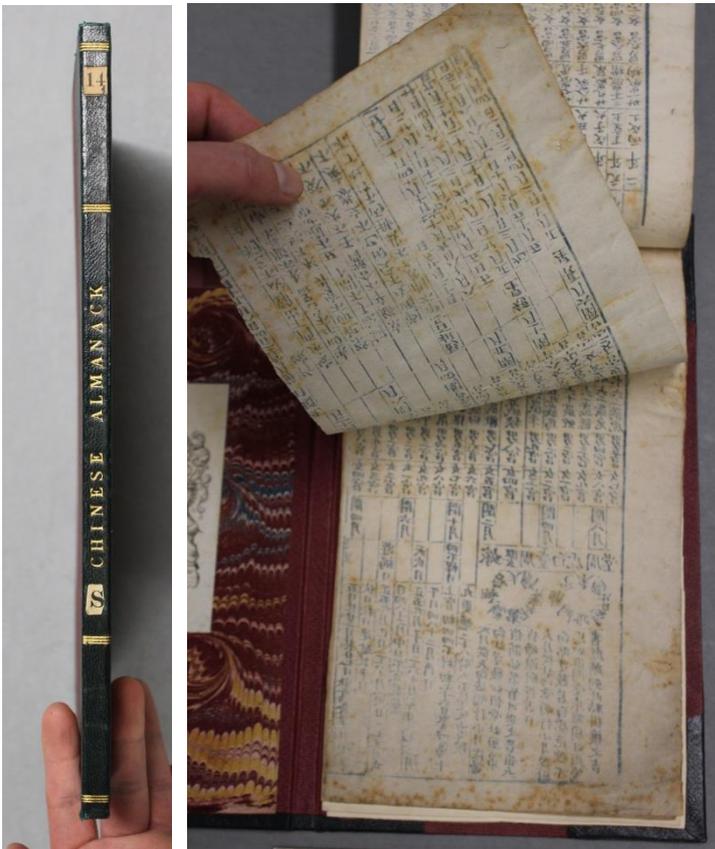
Fig. 5: Textblock held with silk thread at tail, and a rough parchment thread repair at head. This volume is from Emmanuel College Library (MSS 226), ‘A new print of the official edition of commentary on *The Book of Changes*’ by Zhu Xi, edited by Cheng Ju, ca. 1573. The Book of Changes is a late 9th century classics.

Covers. Individual Chinese fascicules are unsuitable for vertical storage on their own as, over time, they simply collapse due to the flexibility of the pages and cover. Chinese books were traditionally rigidified by the wrap-around cases, often crafted for a series of fascicules. In the western tradition, the binding attached to the textblock provides rigidity. On arrival on the shelves of western libraries, Chinese volumes were often rebound with a new sewing structure and covers.

Various types of bindings were constructed, depending on the owner’s taste, the destination of the books, and the binding styles popular at the time. Thin fascicules were bound either individually or together to create a thicker volume. Historic western bindings were sometimes added onto the original Chinese structure, with the old colored silk thread or paper fasteners left in place. In such cases, the disruption to the original structure was relatively minor. For instance, cloth covered case bindings, common in the 19th and 20th century, were added to large numbers of Chinese books from Cambridge University Library. In the context of a library meant to be used by students and researchers, case bindings presented the advantages of being relatively cheap to produce, simply added onto the existing structure, and easy to replace.

An example of variation on case binding implemented on volume S.14 from St John College Library, in the late 19th or early 20th century, illustrates the role of the binding as outer protection and disguise of the Chinese book into a western volume (see Figs. 7 a & b). The volume has the appearance of a half-leather case binding and opens from right to left as a

western book. But instead of being sewn along the spine, the thin fascicule was sewn and glued into a protective paper folder along the top edge. The textblock opens vertically and is secured to the backboard of the protective case.



Figs. 7: a) Case-binding appearance of the spine of volume S.14, a Southern Ming Calendar kept at St John's College². b) The pages sewn and glued along the head edge open vertically while marks of the previous paper binding are visible along the right edge.

Earlier models of bindings were variations on stationery bindings. Examples from the Bodleian Library include half-parchment tied-on bindings with marbled paper sides covering the boards added to the fascicules, and limp vellum bindings, commonly used since the medieval ages. The good condition of some of the early 17th century limp vellum bindings demonstrates their durability, which justified their reiteration for the rehousing of Chinese printed books until the 20th century.

Fine leather bindings were more invasive than the models previously described. The addition of sewing supports passing through new holes in the textblock weakened the paper along the gutter; rounding the spine and the adhesion of leather to the back using animal glue contributing to the planar distortion of the paper pages (see Figs. 8 & 9). Even though they can be a poor fit, carefully crafted bindings denote the value attributed to the book, especially when they have been gold- or blind-tooled (see Fig. 10). From the examples surveyed in the Cambridge libraries, it seems that the condition of Chinese fascicules bound in full leather bindings was worse if the paper was thin and if the fore-edge folds were open.

² David Helliwell's blog *Serica*, 2 January 2012 entry on Southern Ming Calendars, accessed 27 June 2017 <https://serica.blog/2012/01/02/southern-ming-calendars/>



Fig. 8: St John's College library volume S.52, 'A new edition of the twenty-four examples of filial piety' was rebound in a tight-back, full leather binding.



Fig. 9: Some pages were missing, all fore-edge folds were open, and the thin paper was heavily damaged with planar distortion, losses at corners and edges, tears and creases. This volume is part of William Crashaw's collection, which was a significant addition to the college library that prompted the construction of a new College library in 1623-28, now known as the Old Library³.

³ St John's College website, accessed on 27 June 2017
http://www.joh.cam.ac.uk/library/special_collections/early_books/pix/provenance/crashaw/Crashaw.htm



Fig. 10: Volume DD.4.11, a book on medicine, from Christ's College library provides an example of fine leather binding richly ornate with gold tooling including royal coat of arms used in the years 1603-1707 in the center of the boards. The binding protected the textblock adequately, but was fitted front to back and upside down.

Housing. For some of the volumes surveyed, the original binding structure was sometimes left untouched, and a separate housing was crafted to protect the volumes (see Figs. 11 & 12). With an emphasis on the functionality, modern solutions include phase boxes, four-flap folders or construction of paper and textile wrappers inspired from traditional Chinese housing. Historic approaches included the reuse of wooden boxes, the construction of rigid hard board cases covered in textile such as drop spine boxes, or semi-rigid wrappers using leather (see Fig. 13).



Fig. 11: Series of fascicles from MSS 227, a 1662 edition of *Recovery from myriad diseases*, kept wrapped in paper with the accession number and housed in a phase box at The Parker Library, Corpus Christi College.



Fig. 12: The damaged cover of one of the fascicles from MSS 227 shows the original two-steps construction of the rough binding with three paper pegs holding the textblock and two intricate paper twist attaching the cover.



Fig. 13: Four individual fascicles from Emmanuel College Library's were given one accession number, MSS 226, and kept in this leather and paper wrapper.

Conservation issues

The western alterations to Chinese books kept in Cambridge College libraries resulted in hybrid objects displaying characteristics of Western and Chinese bookmaking traditions. Conserving these hybrid volumes poses both technical and ethical issues. The material changes implemented through conservation should be the consequences of clearly articulated ethical positions. If the value of a book is deemed to reside in the authentic, original material, all western alteration should be considered as undesirable degradation of the highly valued original object. On the other hand, these alterations might be considered as precious tangible

evidence of the singular history of a book, such as signs of significant exchanges between China and Europe. These two diametrically opposed ideals lead to different conservation strategies: the former would result in strategies to reverse western additions to the original material, while the later would aim at the preservation of every aspect of the current shape of the object.

A middle-ground approach would be to consider public access the priority where book conservation would then consist in the implementation of all necessary material changes to make the books functional for readers. The purpose of collections varies by institution and strategies for conservation are likely to vary with expected use and value of specific volumes. The libraries supported by the CCCC aim to support specific teaching and research activities by providing direct access to their significant historic collections. In this context, conservation serves the dual purpose of preserving significant marks of the history of the books while conserving or restoring their functionality to allow occasional direct access.

Book conservation techniques developed in China and in Europe adequately guide conservators' approach to address the degradation of specific types of books. However there is no 'ready-made' solution to conserve hybrid objects. It is ethically and intuitively appropriate to conserve books in the style and state in which they were received, but there are limits to the application of this principle; for example, when the binding structure of a volume causes degradations to the textblock or prevents the application of necessary repairs. With this in mind, I developed a context-specific approach for each book for which conservation was requested since 2016.

Cleaning. Dust and dirt accumulated on the edges and to the front and back pages of books creates a grey, uneven, surface grime, which can be transferred to other surfaces and favor the development of microorganisms. Lessening the surface dirt from the vulnerable, thin paper surface of bound fascicules required the development of suitable techniques. Combining the use of thinly sliced Mars Staedtler eraser, wedge shaped cosmetic sponges (see Figs. 14 a & b) and soft bristle brushes allowed to the efficient collection of surface dirt without creating residues or disturbing the paper fibers.



Figs. 14: a) Mechanical cleaning around the edges using wedges of cosmetic sponges and b) thinly sliced Mars Staedtler® eraser.

Paper repairs. Criteria for selecting appropriate repair paper are the stability whilst aging, and physical characteristics similar to the original. For the repairs described here, color, translucence, thinness and flexibility were the main factors under consideration. Contemporary conservation tends to foster the idea that repairs must be identifiable. As such, in the case of library items, paper repairs are often of a lighter color than the repaired page. Japanese papers made of Gampi and Kozo fibres were selected, and used as single or layer or combined to obtain the desired thickness and flexibility. Gampi paper is very translucent and dense while long Kozo fibers form a more open web. Purified wheat starch paste, widely used in conservation both in Asia and the West, was cooked in deionised water⁴, cooled, sieved and diluted to be used in a very liquid consistency.

For a corpus of fascicules from Emmanuel College Library, the main concerns were partially or totally opened fore-edge folds, creases and tears along the edges and corners, and losses to the first and last pages. In order to keep the binding structure undisturbed, paper repairs were carried out in-situ whenever possible (see Figs. 15 – 17). Gampi paper was used to infill minor losses and carry out the fore-edge repairs. Two kinds of repairs were used to join the half pages at fore-edge: ‘v’-shaped repairs, or single layer strip of paper in order to avoid bulking up the fore-edge.



Fig. 15: Application of a ‘V’ hinge to a partially opened fore-edge fold.



Fig. 16: Single strip repair applied to an open fore-edge fold. The repair strip is attached along the fore-edge with a thin line of adhesive on each side.

⁴ Paste was prepared using 15 % w/w Jin Shofu Japanese wheat starch paste, cooked for 45 minutes, sieved and diluted to be used very thin.



Fig. 17: Trimming in progress: the protruding fore-edge single-strip repairs were trimmed along the top half of this textblock, and are still visible on the bottom half.

Wet treatment – washing. Washing is a standard treatment in both Western and Chinese book and paper conservation. The repertoire of traditional Chinese book conservation techniques includes washing using hot water and alkaline solutions on stacks of pages to lessen water-based stains and yellowing⁵. The common ground between both traditions prompted the wet treatment of the heavily stained and foxed pages of a thin fascicule. The pages were individually float washed followed with a short immersion in cold tap water (See Fig. 18). Paper repairs were applied to the verso of the wet pages, before drying and flattening between blotters and under weight.

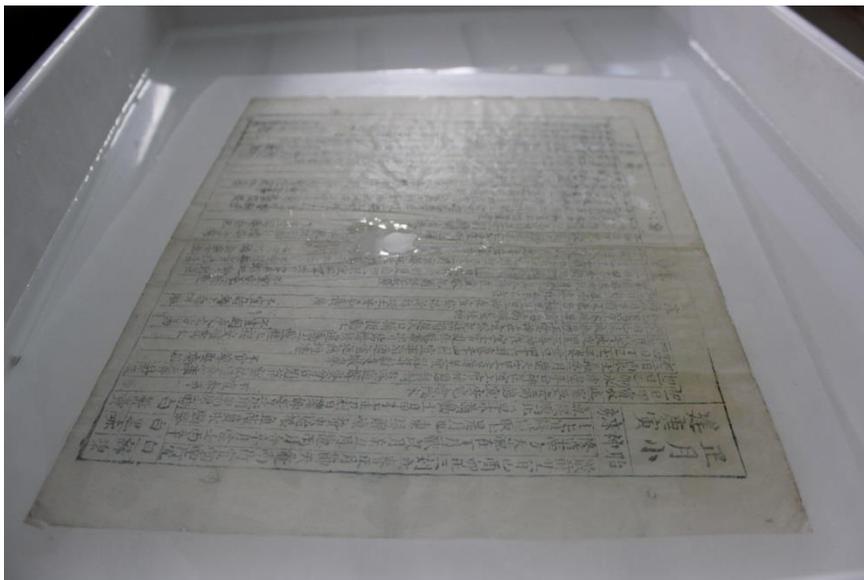


Fig. 18: Float wash of one of the pages from 1671 Southern Ming Calendar kept at Emmanuel College library⁶.

Binding removal. The three parameters considered in cases of binding removal were the significance of the added western binding, its detrimental or protective effect to the textblock, and the destination or usage of object. If binding removal was anticipated, the treatment plan included rehousing solutions.

The treatment of a very fragmentary, heavily damaged volume with full leather binding raised several challenges for binding removal in practice. St John's College wanted to digitize

⁵ Methods of cleaning described pp.65-68 in David Helliwell, 'The Repair and Binding of Old Chinese Books', *The East Asian Library Journal* 8, no.1 (1998), 27-149 accessed 13 February 2017 https://library.princeton.edu/eastasian/EALJ/helliwell_david.EALJ.v08.no01.p027.pdf

⁶<https://serica.blog/2012/01/02/southern-ming-calendars/>

the volume S.52, which could not be handled without causing further damage (see Figs. 7 & 8). All central folds of the pages were opened with losses along the fore-edge; the pages were heavily distorted, with lacunae, tears, and creases; an unknown number of pages were missing. The extent of paper damage throughout the book prompted the decision to dismount the volume in order to treat each page individually. The boards were detached, the leather lifted from the spine, and the animal glue and old sewing removed. After mechanical cleaning, each page was humidified and cleaned using a table wash method. Tears were realigned and creases flattened while the paper was still wet. Local repairs or overall lining using thin Kozo fibers paper were applied to the back of the single leaves. At this stage, the book was digitized, which was the primary objective of the treatment (see Fig 19). The second phase of the treatment was to rehouse the book. The double pages could not be reconstructed to their original format because of the losses of paper along the fore-edge and because an unknown number of pages were missing. The pages had to be treated as individual fragments and the treatment plan focused on reassembling the book as a fascicule using a simple paper binding. The dismantled leather binding was stored with the conserved fascicule.



Fig. 19: Pages ready for digitization.

Rebinding – Housing. A sympathetic conservation binding should aim at preserving the flexibility of the fascicules while providing some protection to the printed pages, while housing should provide a rigid protection to the bound volumes. As an example of rebinding, the addition of a new Japanese paper cover and side stitch-sewing to the fascicule ‘A new print of the official edition of commentary on *The Book of Changes*’ (from MSS 226)’ is completely reversible and did not affect the textblock as the old sewing holes were reused. For rehousing, the construction of an inner wrapper and outer case addresses the problems of the protection of the vulnerable structure and the adaptation of the books to vertical storage⁷. A two-layer housing option was favored for the volumes from St John’s and Emmanuel

⁷ Jesse Munn (2009) *Side-Stitches books of China, Korea and Japan in western collections*, Journal of the Institute of Conservation, 32:1, 103-127

College libraries (see Fig. 20). Fascicules were first enclosed in a flexible paper wrapper to prevent the formation of suction pleats when opening the custom-made phase-box.



Fig. 20: New cover and sewing to 'A new print of the official edition of commentary on *The Book of Changes*', one of the fascicules from Emmanuel College Library MSS 226.



Fig. 21: Rehousing of Emmanuel College MSS 226: a new phase-box holds together the old leather wrapper and four distinct fascicules held in individual mould-made paper wrapper. Due to the variety of format of the fascicule, they were placed on a thin cardboard base with Plastazote foam wedges to prevent movement within the box.

Conclusions

The conservation of Chinese books from Cambridge College libraries posed difficult ethical dilemmas, such as dismounting the historic Western binding in order to carry out paper repairs before digitizing a textblock. The loss of the old western structure was judged to be a necessary step to permit access to the pages. Many of the practical difficulties encountered over the course of conservation treatment were due to the nature of Chinese paper, which is particularly thin and reactive to water. These difficulties were overcome with implementation of an adapted methodology for each treatment step.

The western binding of Chinese books could be considered as having caused irreparable harm to the original volumes. However, the varied repertoire of Western bindings constructed onto individual Chinese volumes, the detail of handwritten notes, gold tooling, bookplates, watermarks on added endpapers, all reflect the history of the circulation of books between donors and libraries, and demonstrate the level of care and value attributed to early Chinese printed books by individuals and institutions.

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