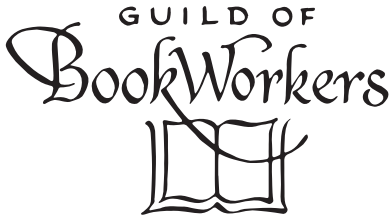
Guild of Book Workers Journal vol. 53

Guild of Book Workers Journal VOL.53



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EDITOR'S NOTE

Last year the members of the Guild of Book Workers voted to establish a new leadership structure for the *Journal*, and this is the first issue printed under that new system. We now have two staggered co-editors rather than a single chair. Having two people share the work seems like a no-brainer—the tasks aren't onerous but neither are they insignificant. The fact that the co-editors hold staggered terms is also a benefit, as there will always be one editor with some *Journal* experience.

We owe thanks to our senior co-editor, Kyle Clark, for proposing this arrangement. Thanks Kyle! This is Kyle's final year as an elected officer with the *Journal*, and we wish him the best as he rotates out of this position. Many of us remember that in the late noughts, *Journal* issues became less consistent, and there was some concern about the future of the publication. Peter Verheyen (with typical generosity) stepped up to the task of getting the *Journal* back on track. He proactively sought suggestions and recruited Guild members to take ownership of this venerable serial. A group of committed volunteers came together at that time, but Kyle was the one who stood election for the position of chair and took official responsibility.

Volume 53, which you now hold in your hands, is the third annual issue since the Journal's "revival." Everyone who has been involved in this work wants to see it continue, and I encourage our members to consider volunteering with the Journal or standing for co-editor sometime in the future. Joining an organization can be fun and rewarding, but getting involved in governance takes the rewards to another level. This issue would not be possible without the efforts of our current volunteer committee—Elizabeth Barr, Craig Fansler, Martyna Gryko, Jessica Hudgins, and Kim Norman. These folks have contacted potential authors, worked with them on articles, conducted interviews, and copyedited the results. We are also deeply indebted to our authors and our layout artist, Rebecca Chamlee.

Our current issue includes five articles. They cover bookbinding history, paper history, and conservation. The final article in the issue is the first of a projected three-part treatment of the history of *Washi* in North America and Europe. We hope and expect to see part two next year. The editors and volunteers of the Journal do our best to represent the interests of the Guild's membership and the diversity of the book arts. We welcome feedback from members as well as suggestions for potential topics and authors. Please consider contributing an article yourself!

I want to finish with a word about the materiality of the Journal. To state the obvious, it is more than simply a collection of texts and images. It is also a printed work of artful design that continues a long tradition of codex production. Rebecca Chamlee's layout work is beautiful and effective; it elevates our articles and makes reading them a pleasure. We are privileged to produce and receive a print journal that is a pleasure to the eye and mind and a support to our colleagues in the print industry.

Enjoy!

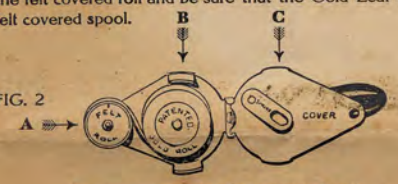
Susie Cobbledick Co-Editor (first year)

DIRECTIONS FOR USING

COE'S GILDING WHEEL

No. 1. Unhook and open the side of the machine, putting the roll of Gold Leaf on the center pin, to unwind from the lower part of the roll, as shown in figure 2. Then tuck the end of the paper in slot A of the felt covered roll and be sure that the Gold Leaf is exposed as the paper winds around the felt covered spool.

FIG. 2



A - represents the felt covered roll
B - represents the roll of Gold Leaf
C - represents the tension spring

No. 2. The winding of the paper on the felt covered roll entirely governs the perfect working of the Gilding Wheel and is regulated by turning the thumb screw to the right to wind tightly and to the left to wind loosely. Adjust this tension properly before you commence to use the Gold Leaf.

No. 3. The empty paper winds around the felt covered roll as fast as the Gold Leaf is stripped from it. Bear down with an even pressure upon the surface you are gilding and do not tip the machine to one side or the other as it prevents all of the Gold Leaf from leaving the paper.

ROLL WHEEL IN DIRECTION OF ARROW

FIG. 3

No. 4. Do not press down very hard on the surface to be gilded, merely using sufficient pressure to revolve the Wheel and prevent it from slipping on the work.

No. 5. If the paper does not wind evenly on the felt covered roll and runs off on one side be sure to adjust it before going ahead with your work. If it is in a very bad condition remove the empty paper from the felt covered roll and start all over again.

No. 6. If the Leaf should stick to the wrong side of the paper, merely blow it down onto the right side, and it will run all right.

No. 7. For gilding out doors in the wind order O. D. Gold or O. D. Aluminum. This is put up especially for that purpose, with the Leaf more securely attached to the paper to prevent its blowing away when being used.

No. 8. When gilding with Aluminum Leaf or Imitation Gold Leaf, use a very strong size and gild sooner as a stronger tack is necessary than for XX Deep Gold.

No. 9. Wearing body varnish tempered so as to dry in two or three hours with Japan Gold Size and a few drops of boiled oil, makes the best size to gild on for work which is to be varnished over. This size can be quickened by leaving out the oil and adding more of the Japan.

Coe's Gilding Wheels are made in the following widths:

Each		Each
$\frac{3}{16}$, $\frac{1}{4}$, $\frac{5}{16}$, $\frac{3}{8}$ $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ $\frac{7}{8}$, 1, $1\frac{1}{16}$, $1\frac{1}{8}$ $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{5}{8}$	$1.75	$1\frac{3}{4}$, 2, $2\frac{1}{8}$ $2\frac{1}{4}$, $2\frac{1}{2}$, $3\frac{1}{4}$ 4, $4\frac{1}{2}$, 5	$2.10 2.25 3.00

W. H. COE MFG. CO.

74 Weybosset Street - - PROVIDENCE, R. I.

Sole Manufacturers of Coe's Ribbon Gold Leaf

Original instructions for Coe's Gilding Wheel.

RIBBON GOLD LEAF: A BRIEF HISTORY OF GOLD LEAF ON ROLLS

SAMUEL B. ELLENPORT

Over one hundred years ago, gold leaf used by bookbinders and related crafts was hand-beaten, prepared in 3 3/8 inch squares. This gold leaf was and continues to be sold in packs of twenty booklets, each comprised of twenty-five sheets. Gold leaf was most commonly 22k or 23k. It came in single or "double" thickness, though this was not actually twice as thick as the regular sheets, but only 10-20% thicker. Double thickness gold leaf was used most often for edge gilding. ¶ In recent centuries, gold has been beaten within a small range of thicknesses, usually 1/8000-1/10000 mm thick, or 1/250,000 of an inch. It may be easier to think in terms of weight: fifteen grams will produce one thousand leaves of gold or two packs, depending on the variation of the thickness of the beaten gold. Manufacturers usually have a formula that determines thickness, varying between 13 and 17 grams per 1,000 sheets. Approximately one ounce of gold will yield four packs of gold leaf. A pack of gold will cover just over 39 square feet.

—samuel B. Ellenport

Sam Ellenport has been a hand-bookbinder in Boston since 1971. He has written about, lectured, and taught the craft in the U. S. and England. He helped found the bookbinding program at the North Bennet Street School and remains an advisor. While witnessing the tremendous changes in the book arts, Sam remains a defender of the classic aesthetic developed around the physical book. An avid reader and enthusiastic gardener, Ellenport has taken up the piano after a seventy-plus year hiatus.

The color of gold leaf is determined by the metal used to make up the difference in purity between the 22 or 23k gold and 24k. Because 24k gold is too soft for almost any use, it is mixed with another metal to give it a little more rigidity. Two other metals most commonly used for this purpose have been copper to give a deeper color or silver for a paler color. These shades of colors, and other shades as well, were part of the variety of gold leaf offered to bookbinders over a century ago and well into the twentieth century.

The bookbinding trade, however, has always struggled to control waste of such a precious material, and the gold manufacturers worked to provide solutions to this challenge. The solutions offered by the manufacturers took two forms. One solution was the manufacture of genuine gold leaf carried on a backing or carrier that, when struck with a heated die, a brass tool, or a pallet of type, acted as a transfer foil. This allowed the finishers to use genuine gold in a form that could be handled quickly and easily without the use of gold cushions, sizing, etc. Such foil was readily available throughout the twentieth century even though the number of firms manufacturing them continued to shrink. With the closing of M. Swift and Sons of Hartford, Connecticut in 2007, the author is aware of only one domestic producer of genuine gold foil, the Quick Roll Leaf Company of Middletown, New York. The Quick Roll Leaf Company, founded in 1929, still makes genuine gold leaf foil that is sold through Earnest Schaeffer, Inc., a company in Union, New Jersey. Their gold is somewhat brassy in color. On their website they attest that their foils are mostly used for stamping in production binderies on covers and in related trades where production runs are large.

Gold foil, as well as all the pigment or colored foils, has almost always been used by edition binders for stamping enormous quantities of cloth covers for commercial publishing. During most of the twentieth century such foils were not used by binders who tooled and decorated leather books by hand. To these finishers, foil presented a problem. The gold foil covers an area larger than that of the tool, type, or decoration used to make the impression. As a result, a finisher would be working blind, with the oversize foil blocking the view of the actual surface; also, the finisher would be faced with an excessive time commitment for set-ups and jigs that would be needed to insure the proper placement of the impression. Both of these challenges are inconsequential when producing multiple covers, as even lengthy set-up times are acceptable if there are many covers to decorate and title. Gold foils helped the edition binder but not the hand bookbinder.

A second solution to contain waste and save time that was provided by gold manufacturers was geared primarily to hand bookbinders working in leather and some specialized crafts men who used gold leaf in narrow widths, such as sign painters and specialty gilders; it was especially useful for those decorating leather topped desks and tables where very long, narrow lines required an excessive amount of labor to cut and lay gold, usually with much waste. The solution offered was the introduction of free gold leaf mounted on a special tissue paper that was rolled onto spools rather than placed as sheets into booklets. Again, there were many producers of this

Figure 1: A Coe Platform for ribbon gold leaf.

item, though possibly one of the first was Coe and Co. of Providence, Rhode Island, which also produced the Coe Platform and Coe Wheel for further ease in handling the spool or roll of gold leaf.1

These illustrations show a modified gold cushion with a spindle at one end which allows the gold to be unwound on top of the familiar cushion. Also shown in figure 2 is a Coe Wheel, a hand tool with a removable cover that holds the spool on a spindle so that the gold ribbon can literally be rolled onto a surface by using the little roller head at the front end of the tool. M. Swift and Sons of Hartford, Connecticut made a similar tool called a "gilder's wheel."

Figure 2: Detail of the Coe Platform and a Coe Wheel, with some rolls of gold.

The spools of gold leaf were almost always 23k gold and were XXDin color—XXDis a shorthand description used by the manufacturer and stands for a shade of gold called double deep. The implication is that XXDis a bit richer in color than their usual product, a bit warmer which usually means that copper has been added to the pure gold. The author has never seen any other shades of gold leaf offered. All spools were sixty-seven feet long.2 Although all the spools are sixty-seven feet long, they were provided in many different widths. The spools were usually sold in a box or tin in groupings of 3 or 3¼ inches. Th s length was divided into 1/16, 1/8, 3/8 ches, etc. to make up the roll's width of 3 or 3¼ inches. The total area of a box or tin of this roll leaf is about seventeen square feet, or just under one half of that covered by a pack of gold leaf in the square 3 3/8 ch format. Thus a box or tin of ribbon gold is the equivalent of one half pack of regular leaf, or ten booklets of leaf.

Gold leaf in spools or rolls historically has cost a bit more than sheets of gold in books.3 The savings for bookbinders, sign-painters, and other crafts en using ribbon gold is signifi ant. Most binders today use little gold, yet it is easy to imagine the savings in ease of handling and minimal waste. For example, imagine tooling a single line border on the covers of a book. The step after sizing the book would be to place a sheet of gold leaf on a gold cushion, cut it into long and narrow strips, and then laboriously transfer these strips to the cover. Since long thin strips of gold are difficult to cut, handle, and transfer, this is a tiresome and often frustrating process. Thin trips often break in handling and have to be laid twice. An easier way to handle the thin strips is to cut them much wider than needed. These are easier to handle and transfer, but produce great waste. Now imagine a spool of 1/8 inch gold leaf, contained in a hand-held tool that can simply run the gold over any length on the sized cover. The initial method requiring great skill, dexterity, time, and patience now could be replaced by a method to lay strips of gold with little chance of error in a few seconds.

To save time in other areas of tooling, the fin sher can work with the gold leaf on the tool or type rather than making an impression through gold laid onto the cover or spine of a book. Using the Coe Platform or anything similar, one could attach a spool of an appropriate width and, after sizing the book, simply pick up a small amount of gold directly onto the heated tool before making the impression on the leather. By folding the excess gold over the fin shing tool with a bit of cotton wool, sight lines are assured. Again, this requires no cutting, handling, or transferring roll leaf gold as is necessary with sheets of square gold leaf. While this procedure might not be suitable for all work, it is a very fast and economical way to put in single or double panel lines on spines or, for example, to patch a broken letter in a title panel, or add small design elements on covers.

Gold has become less of a necessity in the modern binder's arsenal for design and even titling. Genuine gold stamping foil is still available, but most quality binders stay away from using these foils for reasons already mentioned. With foil, fin shers can only make shallow impressions, and genuine gold foils often seem dull when compared to leaf gold. There are also issues of shoulder creep with foil, as well as a justifi d lack of trust of the adhesion of the gold on the material's surface over time.

Free gold leaf remains the best choice for any fin shing, although it is available today primarily in sheets. Roll gold leaf is available primarily from past inventories. The Wehrung and Billmeier Company of Chicago still produces gold leaf on spools, but none less than ¼ inch wide. I encourage you to explore the possibility of using roll gold leaf. With its ease of handling, its economy of time and material, you may fi d that this product makes the use of gold much

more accessible in your binding designs. After all, there is nothing like the radiance of genuine gold leaf that, even after centuries, stands apart from all other decoration in its brilliance, warmth, and welcome.

For those interested in acquiring ribbon gold, please contact the author for widths and availability. Contact him at sam@chagfordinc.com or 617-489-4707.

NOTES

1. In the twentieth century there were several U.S. companies which produced gold leaf and ribbon gold. These included M. Swift and Sons of Hartford, Connecticut, W. H. Kemp and Company on Spring Street in New York City (a street known for its numerous binding supply shops and binderies), Hastings of Philadelphia, Pennsylvania, and The Coe Company in Providence, Rhode Island. Other well-known companies that made gold leaf included American Roll Gold Leaf Company of Providence, Rhode Island, F.W. Rauskolb Company of Boston, Wehrung & Billmeier of Chicago (founded in 1905 and still in business) and The Grecht Gold Leaf Company of Orange, California (founded in 1900 in California, but was earlier established in Brooklyn, New York; see W. E. H. Rasmussen, *The Goldbeaters of Orange, California*, 1974). For further information about gold manufacturing companies, see F.T.C. versus U. S. Gold Leaf Manufacturers' Association as reported in the *New York Times* on April 27, 1918. The Trade Board accused members of the association of price-fixing, and the list of those involved was estimated to cover more than half of the gold leaf manufacturers in the United States.

2. Raymond J. Le Blanc, *Gold Leaf Techniques*, 2nd ed. (Cincinnati, OH: Signs of the Times Pub. Co., 1980), 140.

3. From the little information that can be found, and the author's experience, there seems to be a generally accepted ratio between the cost of an ounce of gold and the price of manufactured gold leaf. The ratio is that the cost of manufactured gold leaf is approximately double the cost of the actual gold. For example, an ounce of gold worth $1,100 today will make approximately four packs of gold leaf, each of which should sell for $550. In fact this is true. This general rule of thumb holds for roll leaf as well with a slightly different ratio. In this case the manufactured roll leaf is twice the cost of the raw gold plus 15%. Each 3 inch length of roll gold is equivalent to one half pack of gold leaf, and should sell for $275.00 + $40 = $315.00. This ratio is apparent in a recent Swift price list. When gold was at $660 in 2005, a 3 inch length of rolled gold sold for $180, though a pack of gold was $325. With gold currently at $1,100/ounce today, a pack of gold leaf today from any reputable supplier is $500+. As far back as can be ascertained, these pricing ratios hold. For example, after the gold price in the United States was allowed to float in 1971, the value of an ounce of gold reached $58.60 by the fall of 1972. An invoice from a supplier shows a box of gold leaf rolls, XXD, sold for $16.50 per box. The bullion price of gold in the rolls of gold leaf was $7.325. This value, x2 + 15% equals $16.84. For historical gold prices see tables at www.measuringworth.org or T. Green, Historical Gold Price Table, London; invoices showing retail prices of gold are in the author's possession.

Three different styles of Danish paper binding.

DANISH PAPER BINDINGS:
MORE THAN MILLIMETER

MARK J. ANDERSSON

For ten years as a bookbinding instructor, I taught what I believed were "millimeter bindings" to students. During the past ten years, though, I have learned a great deal more about the specific features and characteristics of these historical bindings, which turn out to be rather different from what I thought I knew. Part of the problem was that I had never seen a genuine millimeter binding—at least, not one created by one of the professional Danish binders of the first half of the twentieth century. I had only seen pictures in Henrik Park's book, *Danske Bandtyper*; and pictures, it turns out, don't always do a subject justice! ¶ In 2013, I bought my first example of a millimeter binding made by Henrik Park. Since then, I have purchased many dozens more of the extant. After examining and comparing these volumes—along with extensive research in Danish publications—I have gained a much different understanding of what they are. For one thing, they cannot all be lumped into the category of "millimeter bindings." They might be more properly called Danish paper bindings, of which there are four distinct versions: 1) paper bindings; 2) Sandgren style bindings; 3) Rubow bindings; and 4) millimeter bindings. ¶ Here is what I have learned.

—mark anderson

Mark Andersson was raised in a household where you didn't dog-ear pages or write in books. After teaching high school social studies, he moved to Boston in 1986 where he mainly did darkroom work—printing, housing, and duplicating glass plate negatives—and overseeing historic homes for an archive. At the archive, he was asked to repair a few books. Following the instructions in a particularly unfortunate manual, he repaired several books using bad techniques and lost sleep because of it. That insomnia led him to attend North Bennet Street School (NBSS), from which he graduated in 1992. He then returned to Seattle to work for the University of Washington until 1998, during which time he spent a year in Sweden on a Fulbright Scholarship at the Carolina Rediviva Library. He returned to Boston to teach at NBSS until 2007, when he moved to the outskirts of Tucson to build a house and establish Panther Peak Bindery where he currently teaches the occasional class and enjoys retirement.

PRIVATBIND IN DENMARK

For centuries throughout the Western world, it was traditional to publish and sell books with sewn text blocks in paper wrappers. Purchasers would take their new text blocks to binders to be covered. The Danes called such books *privatbind* or private bindings. The introduction, in the 1960s, of laminated paper-covered books with adhesive-bound text blocks pretty much ended the era of *privatbind* books.

Historically, binders made their livings providing full and half leather bindings to regular customers, though paper bindings provided a more affordable option for less wealthy patrons. Denmark, however, has a history of making cheaper paper bindings. Economic upheavals in the early 1800s led to national bankruptcy (the *Statsbankerotten* in 1813) and made leather bindings unaffordable to most of the population. The response of Danish binders was to make paper bindings in the style of leather bindings. Mirror bindings, where a section of the leather covers were dyed a different color, or where a piece of colored leather was inlaid, were instead made using paper as both the covering material and as an onlay.

Paper mirror binding. *Skoleferier*, Copenhagen 1806.

Of course, paper bindings were made before the early 1800s and continued even after Denmark's economic recovery in the years following national bankruptcy; but it appears likely that the economic difficulties contributed to the prominence of paper bindings in Denmark, making them arguably more common than in other European countries of the time.

Paper mirror binding. *Sophia*, Copenhagen 1809.

FOUR TYPES OF DANISH PAPER BINDINGS

So what are the variations and distinctions among the four main types of Danish paper bindings? The first is the paper binding in which the covers are, of course, paper—with no leather or vellum. These speak for themselves and won't be elaborated on below. The second—the Sandgren style binding, named for August Sandgren —uses vellum or leather at the head and tail of the spine and hidden vellum tips on the corners. The third type—Rubow bindings, named for Jørn Rubow — makes use of vellum or leather along the head and tail edge of the boards and spine. The final type, millimeter binding, utilizes leather or vellum on the spines, exposing just one millimeter of either material along the shoulder edges of the boards. The corner tips are made of hidden vellum.

The progression and development of the latter three bindings span most of the first half of the twentieth century, each having its own creator and distinctive history. The following sections give a brief history of each binding and describe a typical example as well as a variant of that style.

THE HISTORY OF SANDGREN STYLE BINDINGS

August Sandgren was born in 1893 in Hobro, a town of about 2,100 people on Denmark's Jutland Peninsula. He completed his apprenticeship as a

bookbinder in 1912, after which he lived and traveled in Europe, working and training in Switzerland, Holland, Belgium, and Italy. Following the outbreak of the First World War, Sandgren was sent back to Copenhagen but made a detour to Berlin where he studied and worked until the war ended. The severe economic problems of post-war Berlin convinced Sandgren and his German wife to return to Copenhagen in 1919.1

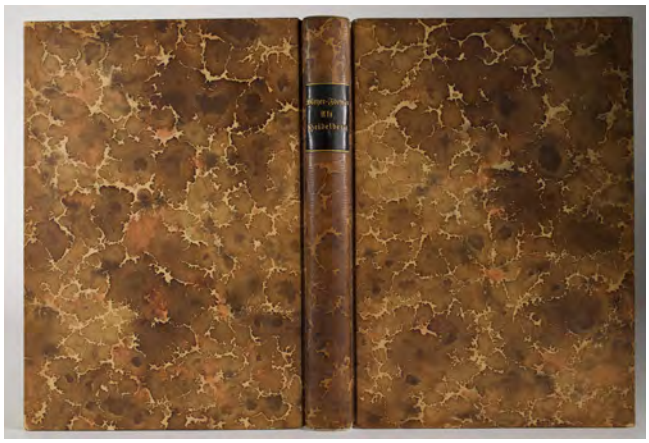
In 1920, he took over Oswald Janner's thirteen-year-old bindery.2 Sandgren owned and ran this legendary bindery until his untimely death in 1934. During his final fourteen years in Copenhagen, he attained considerable renown in Denmark, which continues to this day. He is to Denmark as Cobden-Sanderson is to England. Though most of his work was in full and half leather bindings, he also felt the need to make paper bindings for customers who couldn't afford the high prices he charged for leather bindings.3 To make these paper bindings more durable he introduced the idea of adding vellum to the head and tail of the spines, and hidden vellum tips on the board corners.

As strength was the purpose of this style, Sandgren mainly used vellum. I have examined two examples in which he used cloth but have not yet seen any instance in which he used leather, which would have been less durable than vellum or cloth.

ELEMENTS OF A SANDGREN-STYLE BINDING

The book in the photos is typical of the Sandgren style binding: paper with minimal elements of leather or vellum. Sandgren was known for making his own marbled, printed, or paste paper designs, and it is likely that he made the marbled paper for this cover. The signature elements of his bindings were the vellum at the head and tail of the spine and the nearly invisible vellum corners.

Damage on the spine of the lower book shows that the vellum extended over 20 mm into the spine of this volume.



***Ult Heidelberg*, 1902. Binding undated.**

All of Sandgren's bindings have the vellum extending about 10 mm or more onto the spine.

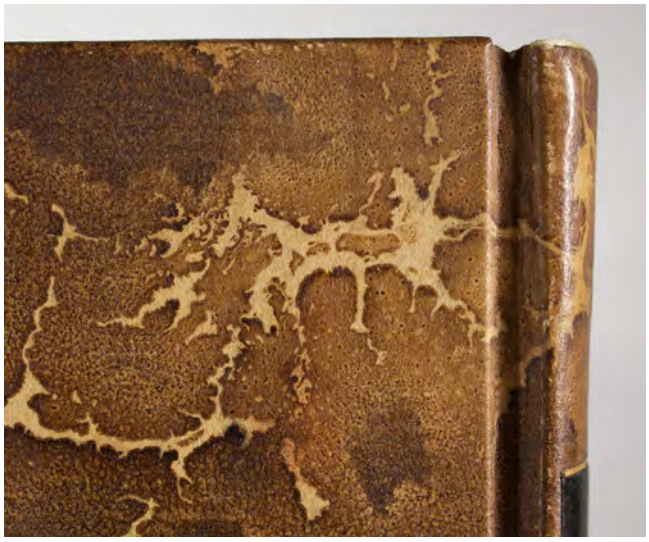
It is difficult to see how far the vellum goes into the spine below, but only 1 mm is exposed.

The paper exposes 1 mm of the vellum and covers the face of the board.

On the boards, paper covers all the vellum on the board faces, but a small amount of vellum is exposed along the board edges and turn-ins adjacent to the spine.

The vellum on the boards extends about 5 mm on the edges.

The corners are another distinguishing element of Sandgren's bindings. Again, the paper completely covered the face of the board, and only a small amount



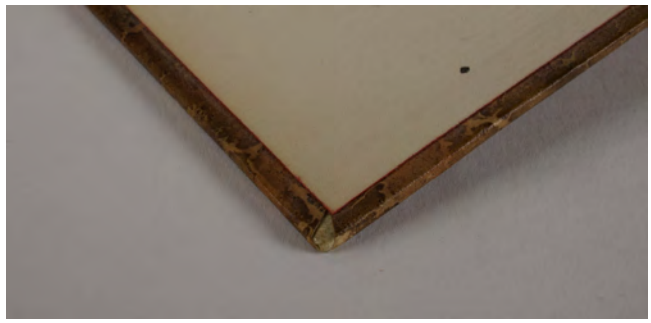
Detail showing the board face is completely covered by the paper.

Boards open to show inside of upper spine and boards.

of the vellum was shown on the inside of the board at the corners.

Detail of vellum corners showing vellum exposure inside and outside of boards.

Another distinguishing factor of Sandgren's style are the turnins, which are trimmed to about 7 mm. The squares are about 3 mm. On this example, the title was gold tooled on a leather label. As in this photo, most of Sandgren's endpapers were some version of off white.



The turnins of Sandgren's bindings tend to be about 5-8 mm, and he mainly used white or nearly white paper.

Naturally, a few variants to Sandgren's style evolved over time. The most common differences between modern bindings in this style and those originally made by August Sandgren occur in the use of leather and the exposure of leather or vellum along the board edges.

A common variant with these bindings is the exposure of the leather or vellum on the board edges. V. Asholt binding, undated.

Also, the corners might be more prominent either on the face or inside of the boards.

A more interesting variant is the extension of the leather to include the title or date.

Corner on a Jens Juul-Lassen binding showing a completely different inside corner from Sandgren's original style.

This unsigned binding of Victor Hugo's *1793* has expanded leather at the head and tail for the author on top and the title below.

THE HISTORY OF RUBOW BINDINGS

The Rubow binding took its inspiration from Sandgren's technique. Henrik Park documented the origins of this style—the only binding of the three for which the origin story has been recorded, probably because Park was giving credit to someone else and the millimeter binding was his own creation. Park had studied under the esteemed Anker Kyster and took over his bindery in January 1939, a few months before Kyster's death in April. Park was just twenty-one at the time he took control of the bindery.4

In his article on bookbinding written for the Norwegian Field Museum, Henrik Park describes how museum curator Jørn Rubow asked him if Sandgren's vellum on the spine could be made to run the whole length of the head and tail of the board edges. This took place during the Nazi occupation of Denmark, which began in April of 1940. Park tried it out and named the style a Rubowbind (Rubow binding) much to Rubow's embarrassment, which Park put down to Rubow's "modesty." He felt these bindings were easier to make than Sandgren's and he thought they used materials more efficiently, which mattered during the occupation.5

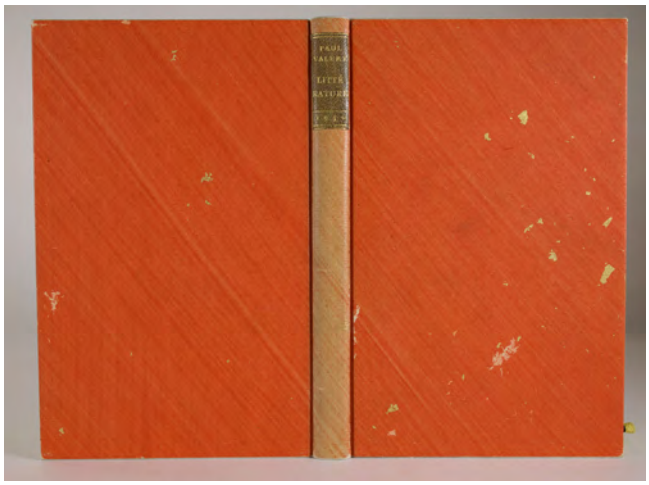
***Upvalgte Digte*. Rubow bindings by Henrik Park, 1945.**

Park was one the few binders who both signed and dated his work. The Rubow binding he made in the photo is from 1945. It uses a decorated paper with about 1 mm of vellum appearing on the board edges. The small vellum exposure is a trademark of Park's Rubow bindings.

Detail of Park Rubow, showing the 1mm vellum exposure.

The Rubow bindings I have examined are mostly covered in decorated paper, which in this case refers to paper with printed designs. Of the fourteen examples in my collection—dating from 1940 to 1951—only four have paste paper on their covers. Three of those four

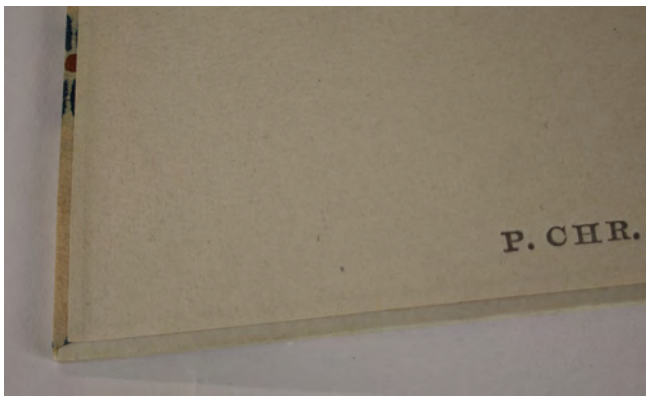
have designs of colored paint made by angled brush strokes. None are geometric patterns.



***Litte Rature,* a 1949 Park Rubow binding. Angled brush strokes with gold leaf fleck .**

The endpapers are, again, mainly off- hite. The vellum extends onto the boards about 7mm and the turnins are trimmed to 5 mm.

A slight variation of the Rubow binding appeared in a surprising way. In 1940, the year Rubows came



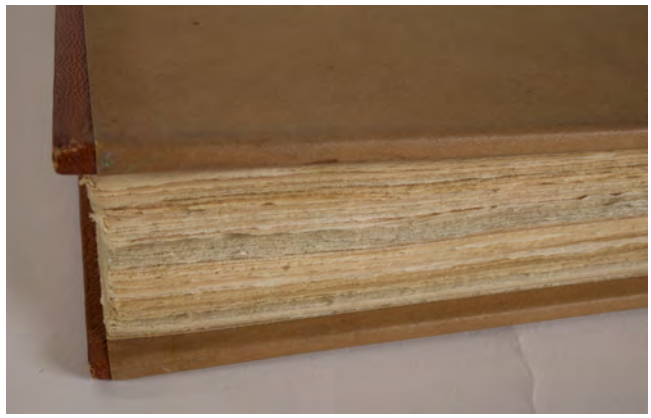
Turn ins and endpaper in *Upvalgte Digte*, Park, 1945.

into existence, a group called the Grafisk Cirkel produced a book in this style. That others jumped so quickly on the Rubow bandwagon shows the speed at which these ideas spread.

The variant in this binding is a common one: the exposed leather on the binding is the width of the square.

In other words, the paper on the cover is the same height as the text block.

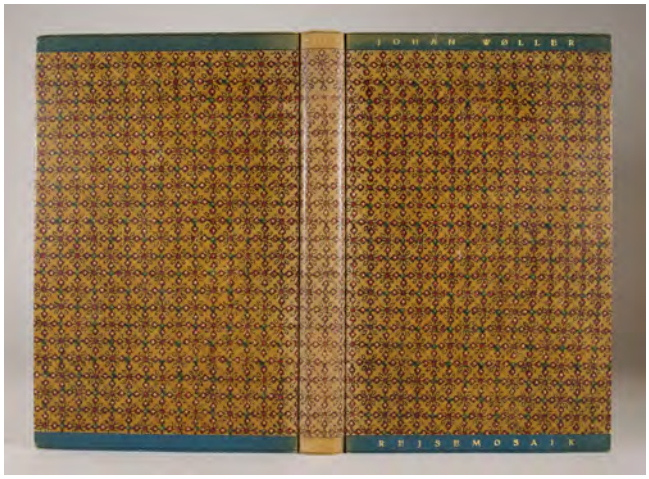
***Trykte Ord, (Printed Words)*, binding by A. Andreassen, 1940.**



***Tryke Ord,* showing the alignment with the leather exposure with the size of the text block.**

Andreassen and Park Rubow bindings showing the different leather exposures.

Park himself made another more interesting variant in 1943. In this binding, he extends upward and downward the "rails" (as he calls the leather or vellum running parallel on the board edges) to create room for the title and author on the top and bottom edges.



***Rejsemosaik*, Rubow variant bound by Henrik Park in 1943.**

MILLIMETER HISTORY

Millimeter bindings are the most common and well known of the three types of the Danish paper bindings that include minute amounts of leather or vellum. These bindings are a direct reaction to the shortages of materials created by World War II. They are the simplest and easiest to make of the three bindings described in this article. These bindings generally have only 1 mm of exposed leather on the board edge along the joint.

A firm date for the origin of millimeter bindings has not yet been established. I asked a reputable, long-time book dealer—Søren Vangsgaard of Vangsgaards Antikvariat in Copenhagen—about the earliest examples he has seen. Looking through his records of the hundreds (probably thousands) he has sold throughout his career, he found examples of millimeter bindings beginning in 1941. That may be as close as we can get to an original date.

***Forvandlinger*, millimeter binding bound by Henrik Park in 1950.**

The millimeter binding shown was made by Henrik Park in 1950. It uses a very common Park paste paper pattern: angled brush strokes. This binding also shows its original DNA—Sandgren style bindings—in having its corners hidden from the outside of the boards in exactly the way Sandgren did them.

In addition, the turnins are trimmed to about 5 mm. In this example, the title is blind tooled. There are also headcaps.

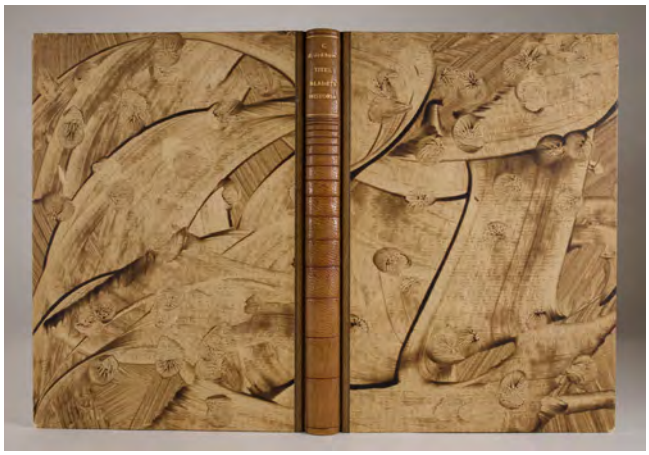
***Forvandlinger*, showing exposure of leather on board face, head cap, and joint.**

Headcaps were common in these three types of Danish bindings when leather, rather than vellum, was used.

***Forvandlinger*, corners.**

Compared to the other two styles, there seem to be fewer variants of millimeter bindings. Some have slightly exposed corners. Some ignore the strict

condition of 1 mm of leather or vellum along the board edge. The increase beyond 1 mm may be due to the renewed supply of leather available as Europe recovered from World War II. These "millimeter plus" bindings can certainly be as beautiful as the originals.



***Titelbladets Historia*, millimeter variant by Jens E. Hansen, undated. Showing more exposure of the leather on board face.**

***Titelbbladets Historia*, detail of spine and boards.**

CONCLUSION

There are almost as many variants in the styles of these bindings as there are binders making them. Having looked at and examined hundreds of these bindings two things are clear.

First, though the techniques and craftsmanship are not compromised in any way, these are bindings that were made as a budget option.

Second, the bindings run the gamut from breath-taking to rather plain. These are trade bindings made for clients and profit. Some have gilt edges, but virtually none have sewn endbands. Most have untrimmed fore edges and tails.

In my collection, paste papers are used on 34% of the bindings. Papers that were most likely decorated (or not) outside the binderies account for the other 66% (marbled, printed designs, and undecorated paper covers). It is obviously easier to buy paper than to design and create it oneself.

That such beautiful bindings can emerge out of economic and political clouds, or even from the desire for profit, shows how pressure sometimes creates diamonds, beautiful books, and fascinating bindings.

All photos by the author. All of the books depicted belong to the author's personal collection.

NOTES

1. Oswald Janner, *Bogbinder August Sandgren* (Copenhagen: Sandgren Klubben, 1949), 12.

2. Ibid., 13.

3. Gustav Strand, "August Sandgren - Mennesket og Bogbinderen" in *Bogbinderen August Sandgren* (Copenhagen: Forening for Boghaandvaerk, 1952), 37.

4. Mikael Kristensen, *Bogbindernes Blå Bog* (Copenhagen: Dansk Forening for Bogbind, 2010), 309.

5. Henrik Park, "Bogbind" in *Nordenfj ldske Kunstindustrimuseum Årbok* (Trondheim: F. Bruns Bokhandels Forlag, 1951), 82.

A text block with adhered-thread sewing support extensions. Mitchel Gundrum.

ADHERED-THREAD
SEWING SUPPORT EXTENSIONS

GRAHAM PATTEN

This metho d of b oar d at t achment fo r b ooks sewn on supports was developed to address situations in which the spine material cannot or should not be lifted1. In these cases the board attachment method cannot depend on any material to adhere directly to the spine of the text block. The method described in this article instead utilizes the exposed ends of broken sewing supports as an attachment location, providing a less problematic and invasive alternative to "board tacketing" or "joint tacketing"2. The essential idea is to insert and adhere pointed thread extensions into the original sewing supports and use these threads to attach the boards, avoiding the need to pierce through the text block shoulder or spine leather. Th s technique bears a resemblance to those described by Peter Goddijn3 and more recently Emma Fraser,4 but critically it involves neither piercing the spine leather nor compromising the sewing by drilling. ¶ When successfully implemented, this means of board attachment is surprisingly sturdy. Although the new connection depends on mere threads, it is assumed that after treatment the book will be used with care, perhaps in a reading room. Th s is not the type of treatment that will withstand the less delicate handling that a circulating volume will endure. Th s technique is not recommended where the thread would flex gainst unavoidable sharp or abrasive materials at the shoulder, such as the broken edges of a hardened leather consolidant or previous adhesive. Such sharp edges will likely sever the extension thread unless they are softened or removed.

—Grah am Pat ten

Graham Patten is the Senior Conservator at the Boston Athenaeum, specializing in the conservation of bound materials. A graduate of the Buffalo State College master's program in art conservation, he previously served as an Assistant Book Conservator at the Northeast Document Conservation Center, and Conservation Fellow at Northwestern University Library. In his fine binding ork Graham often merges dynamic sculptural and mechanical elements with innovative book structures. He is a member of the Guild of Book Workers, and a Professional Associate of the American Institute for Conservation.

METHOD

The following steps describe the treatment for one detached board.

1. Prepare a small batch of fresh gelatin.

Use 3–4% weight/volume, and refrigerate until use. You will need a way to keep it warm and liquid during use, such as a mug warmer or hot bath.

Gelatin was chosen because it forms points well, and also wicks easily enough to consolidate support fibers[5] and adhere the thread.

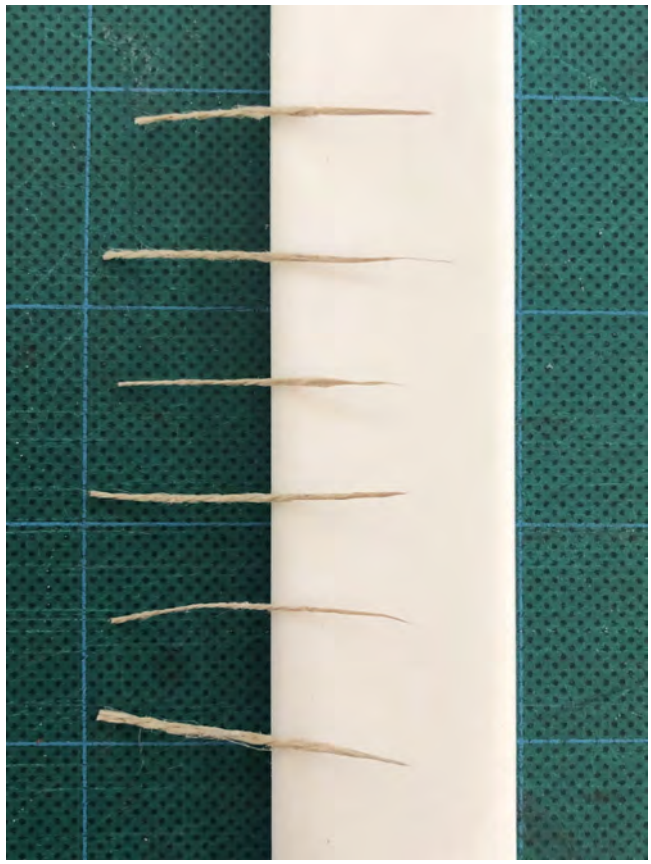
2. Prepare thread extensions.

Cut linen thread into 3–5 cm lengths. Prepare at least one length for each original sewing support. For larger volumes (and those with thicker supports) cut two threads for every support. You will need to make a judgment about the weight of the thread—to maximize strength, the thread should be as thick as possible without causing unnecessary bulk or rupturing the sewing when inserted into the existing support—usually 18/3 to 25/3 gauge. Fray out 5–10mm at one end of each thread.

Remove enough material that the thread can be formed into a point.

Frayed-out threads.

Dip frayed ends in warm gelatin, and pinch out excess adhesive. Dip a portion of the thread long enough to be able to grip firmly when inserting later and short enough that the opposite end may be frayed out. When the gelatin is partially dried (~3 minutes), roll or twist the ends into sharp, fine points. When dry, trim any loose fiber strands to form a clean point.



Thread points drying on a Teflon surface.

3. Prepare original supports.

At this stage, test the original sewing supports to see how deeply you will be able to insert the threads. Using a pin vise with an appropriate needle inserted, prepare a lead hole in the sewing support, according to the following guidelines.

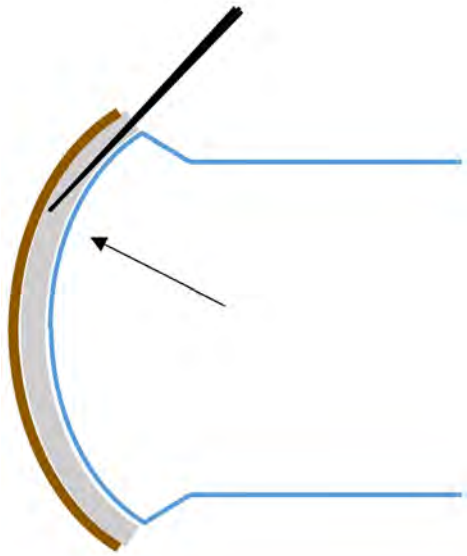
Choice of needle: The needle only needs to be thick enough to provide a hole wide enough for the size thread you are using. Too wide, or too dramatically tapered, and you risk rupturing the sewing or covering material.

Hole placement: If using one thread per support, the hole can be placed right in the center. If using two threads, separate the holes while still keeping them within the bundle of cord fiber. Avoid making the hole alongside the support. Th s is not generally recommended as liquid gelatin can quickly wick into the pages of a text block, causing problems later on.

Depth of hole: A good rule of thumb is 5–10 mm, depending on the strength needed (i.e., the weight of the book) and on how deeply you can push the needle (i.e., how loose and accommodating the support fibers are, and how tightly the spine is rounded).

NB: It is essential to exert great control over the awl so as not to burst through the spine or break the sewing. Th s can be done by gradually twisting and advancing the awl alongside a solidly planted index fi ger. With tool in hand and fi ger braced against the side of the book, neither hand nor tool can move forward unexpectedly. However you go about it, be very intentional about bracing your hand and tool. Do not simply press the needle into the support freely. The structural integrity of the binding materials should not be all that is resisting the forward advancement of the needle, because these can give way suddenly, allowing the tool to burst through.

Insertion of needle.



Cross-section diagram of needle insertion.

4. Consolidate support fiber.

For particularly loose or fluffy sewing support fiber it can be helpful to consolidate the walls of the tunnel in order to clear a pathway for the thread. Using a small brush, wick enough gelatin into the lead hole to consolidate the fibers in the immediate vicinity (1–2 drops usually suffice), nd promptly reinsert the needle awl to shape the tunnel. Avoid moving the needle side to side as this again risks rupturing the sewing or covering material. Simply inserting and removing the needle is suffici t to open the pathway. Consolidating will also prevent the support fibers from wicking away the gelatin used in the subsequent step to adhere the threads (i.e., starving the joint).

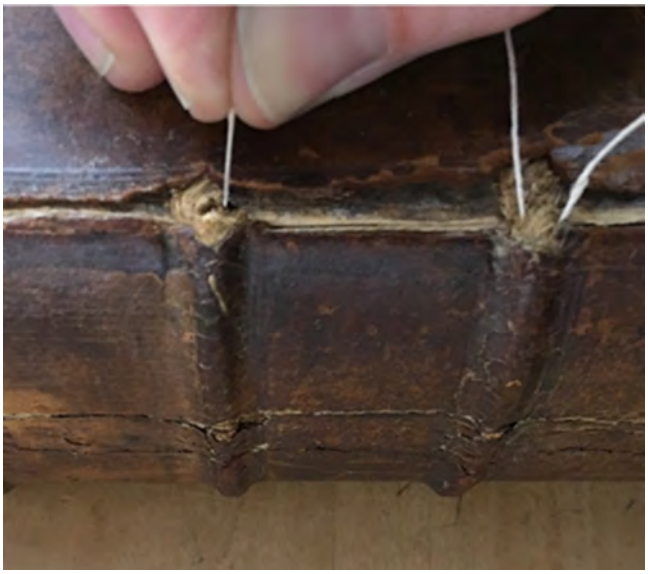
5. Add support extensions

Wick enough gelatin into the lead hole to securely adhere the thread point (1–2 drops). Take care not to oversaturate, as too much gelatin will excessively harden the sewing support or soak into the text block.

Insert the thread point into the lead hole, and press in as far as it will go for a snug fit, still taking care not to burst through the spine. If you fi d as you insert the thread that it stops

Applying gelatin.

signifi antly short of the expected depth, you may need to re-clear the lead hole, or make your thread points stiffer.



Inserting thread.

Firmly and gently press against the raised cord to compress and secure the thread. Maintain pressure for 30 seconds to 1 minute. Finger pressure is enough: pressing too fi mly or with a hard implement can cause the gelatin solution to strike through and blacken degraded leather. Let dry overnight.

No single thread will ever need to carry much weight, as any tension in the joint will be distributed among all the supports. However, you may want to test the strength of some of your extensions by gently pulling on them once dry, and redo any that pull out. The supports nearest the head and tail will experience the most tension and shearing force as a result of any uneven pressure or torque on the board during use, so pay particular attention to the strength of the adhesion at those two stations.

6. Attach board.

Once the threads are dry and secure, use the exposed ends to attach the board using your preferred method. They can be frayed and adhered, re-laced, or inserted into a split in the board.

Frayed threads adhered to the board.

At this point, an inner hinge can be pasted in, bridging the gap between pastedown and flyleaf. Th s will provide some stability against shearing of the board and text block against each other. A cosmetic strip of toned tissue or leather on the outside surface of the joint is not recommended. Adhering bridging material to a degraded leather surface tends to be both ineffectual and damaging; with repeated flexi g, the material

An alternative: Frayed threads inserted into a split in the board edge that was made with a sharp spatula.

tends to crumple and peel off, sometimes taking the outer surface of the leather with it.

VARIATIONS

Th s method of board attachment can be adapted for use with different binding materials and situations. In the following example of a small cloth-covered binding sewn on recessed cords, a piece of medium-weight kozo tissue was used in place of thread. One end was brushed with adhesive and twisted into a point, while the other end was left pen and flat. The dried point was inserted into the remnants of the sewing support and the open end was adhered to the board. Th s paper structure is analogous to the pointed thread extension with a frayed outer end, only formed in reverse and with the benefit of already being very thin and strong.

A kozo-paper twist used as a support extension.

A volume with broken alum-tawed supports and detached board.

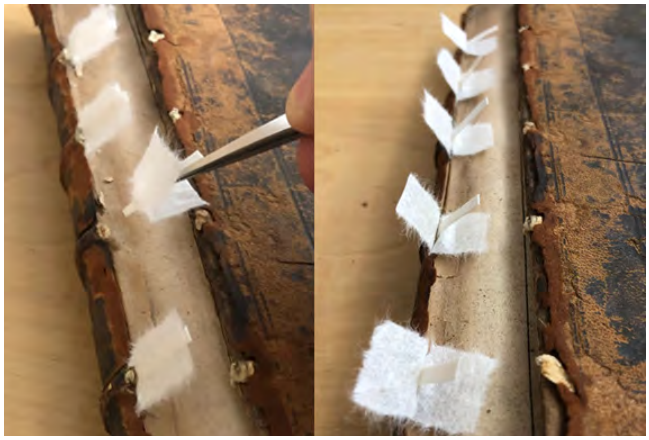
In the case of this binding sewn on alum-tawed supports, not only was the spine inaccessible under the leather, but it was also a curatorial requirement that the damage and evidence of use remain visible, with no added material covering the repair or bridging the gap between board and shoulder. Therefore, the repair materials needed to provide a combination of toughness and thinness: to provide enough strength in the connection while being thin enough to insert safely into the original material.

A composite support extension made with parchment and kozo tissue.

Support extensions were prepared from a laminate of parchment and kozo tissue. Parchment provides some planar stiffness, minimizing looseness in the joint and shifting of the board, while the tissue can be wrapped around the ends of broken supports and/or adhered to the board.

A slot was cut into the broken end of the support with a narrow, sharpened spatula. The slot was made as deep as possible—great care was taken to avoid both cutting the sewing thread and bursting through the spine surface.

Cutting the slot.



Inserting extensions.

Completed board attachment.

After the extension was adhered into the slot with gelatin, the parchment strip was placed beneath the tawed slips on the board. The outer tissue flap wrapped around both the tawed slip and parchment, visually integrating them and physically securing them to each other. The inner tissue flap was then pasted to the inner surface of the board, under the pastedown. These inner flaps help keep the slips and extensions from peeling away from the outside of the board; the board edge is gripped within the sandwich of tissue and parchment.

NOTES

1. It is assumed for the purposes of this article that the spine material will not be lifted. Th ead extensions work well on their own for books with no spine access, but they can also be used in conjunction with other techniques in situations where the spine of the text block is accessible. Whether or not the spine material can or should be lifted is dependent on a combination of factors, including but not limited to the level of degradation of the material, the type and condition of original adhesive, the time/tools/materials available, the hand skills of the practitioner, and the need to preserve the textual and material information contained in/on the spine as dictated by the custodians and users of the book.

2. In board/joint tacketing, thread is drawn through a hole that is pierced through the shoulder of the text block and out the spine. The problems with this technique include: hindered opening of the paper leaves, subsequent damage to the leaves where the thread cuts into the shoulder, punctured spine leather, and thread visible on the spine (if the leather cannot fi st be lifted). Admittedly, there are cases where the outer several leaves of the text are tipped together into a block, and so tacketing through the shoulder does not further hinder opening.

3. Peter Goddijn, *Het Restaureren Van Boeken : Een Handleiding Voor De Restauratie Van Boeken Uit De Periode Van 1600 Tot 1850* (Den Haag: Koninklijke Bibliotheek, 1994). Goddijn describes boring a hole with a drill bit through the original sewing support, starting at the joint and piercing out through the sewing and spine leather. New cord is then threaded

through the hole and adhered. There are obvious drawbacks to bursting through both sewing and spine leather.

4. Emma Fraser, "An Elegant Method of Book Board Reattachment," *Journal of the Institute of Conservation* 46, no. 2 (2023): 149–60. Fraser's technique involves piercing a hole starting at the center of a sewn gathering and out through the spine leather. A threaded needle is temporarily drawn out through the hole, and then inserted back through the same hole at a different angle, to emerge at the joint edge. While this creates a satisfactory mechanical connection to the text block, there is signifi ant potential for damage to the spine material.

5. The assumption is that the fiber of the original support may be used sacrific ally as an adherend; some of this fiber will be lost if the thread extension eventually fails.

Mindell Dubansky. (Credit: Dan Lipcan).

AN INTERVIEW WITH MINDELL DUBANSKY

THE PAPER LEGACY COLLECTION AND *PATTERN AND FLOW: A GOLDEN AGE OF AMERICAN DECORATED PAPER, 1960S TO 2000*

KIM KNOX NORMAN

November 3, 2023

Kim: Hi, Mindy! I don't think we've ever met in person. It's a pleasure to have you for this interview. I have some questions. Should we just dive right in? Can you please introduce yourself to our readers?

Mindy: My name is Mindell Dubansky, also known as Mindy. I have worked as a book conservator and Preservation Librarian at The Metropolitan Museum of Art's Thomas J. Watson Library for the last forty-one years. During that period, I have built the Sherman Fairchild Center for Book Conservation and initiated many research projects relating to book arts and book history that resulted in collections, exhibitions, and publications. The motivation behind these projects was a desire to contribute to our fi ld and to credit artists and bookbinders whose work was unknown or under appreciated by modern audiences.

Kim: Can you share something about what in your background led you to become a book conservator and what drew you to your research projects?

Mindy: Both of my parents made and repaired all kinds of things, and they had a deep appreciation for antique objects, which I also had, even as a child. During college, I studied drawing and printmaking, at Carnegie-Mellon University and at the Exeter College of Art in Devon, England. I think that is where my interest in old books developed, because there, nineteenth-century trade bindings, which I had never seen before, were plentiful and inexpensive. One damaged book I purchased led me to search out a hand bookbinder. Jean Gunner, a British fi e binder and restorer, worked in the Hunt Library at Carnegie-Mellon, where she also did freelance work and offered evening classes. After a consultation with Jean, I decided to take the class and repair my own book, and that was that. I had been looking for a way to make a living as an artist, and I immediately

Mindell Dubansky is Museum Librarian for Preservation at The Metropolitan Museum of Art. Dubansky, who has worked at the Museum since 1982, is also a book artist, a collector of objects in book form, a student of book history, and an author. Among her publications are the monographs* Pattern and Flow. A Golden Age of American Decorated Paper *(New York: Thomas J. Watson Library, 2023);* Blooks. The Art of Books That Aren't *(New York: Mindell Dubansky, 2016); and* The Proper Decoration of Book Covers. The Life and Work of Alice C. Morse *(New York: Grolier Club, 2009).

Kim Knox Norman is Director of Preservation and Digitization Services for Emory University in Atlanta, Georgia. She earned an MFA from the first g aduating class of the Book Arts and Printmaking program at The University of the Arts in Philadelphia. Norman has been a book and paper conservator in private practice for more than thirty years.

decided that way was hand bookbinding. It was a perfect fit.

A fellow student in my class, Olivia Primanus, who later became a book conservator at the Harry Ransom Center at the University of Texas, suggested that I go to New York to visit the Center for Book Arts, which had opened in 1974, only a few years earlier. Long story short, Richard Minsky and the Board of CBA invited me to become an apprentice, and I worked there for four years. I had countless opportunities there to study with masters of book arts, including Hedi Kyle, Bruce Schnabel, Hermann Greissle, Bernard Middleton, and of course, Richard. The Board members included serious book-loving philanthropists Joan Davidson and Polly Lada-Mocarski. John Cliett, the fi st member of the Center, who eventually became my signifi ant other, was also on the Board. All these angels influenced me creatively and professionally, but Polly was the person who took it upon herself to ensure my success. She did this for many hand bookbinders, as her dream was to create a school for fi e binding in the US. Polly decided that I should go to London to study in the Book Restoration and Fine Bookbinding program at the Camberwell School of Arts and Craft. She cajoled me until I agreed to go and raised money to help sustain me while there. I can still hear her saying, "Just go. I promise you will get any job you want when you get back," and she was right, as usual. I got my job at the Met the very day after I returned home and have been there since.

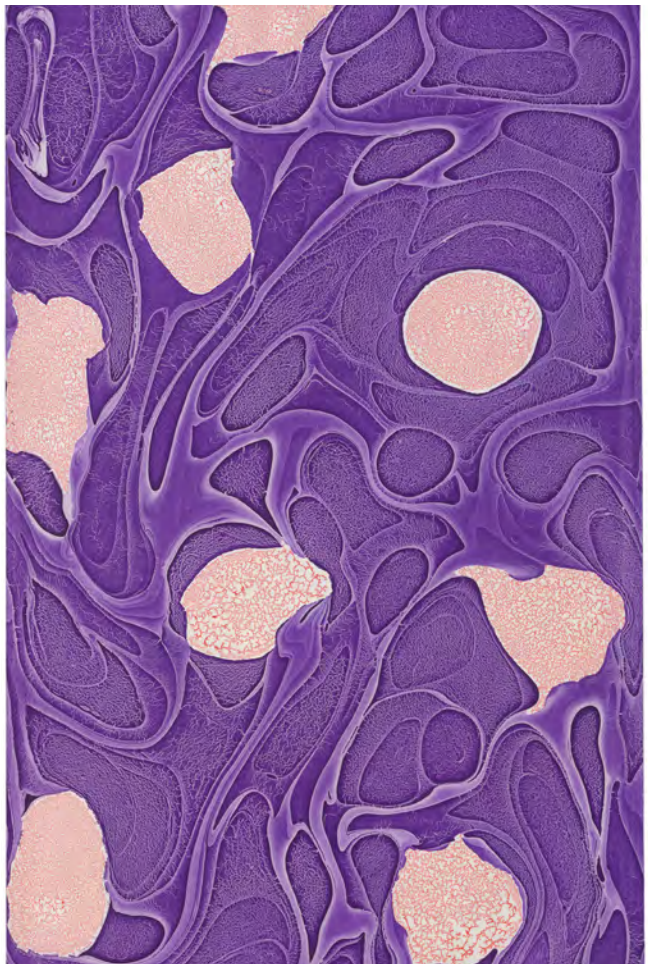
During the 1980s, Columbia University offered graduate programs in book conservation, library preservation, and rare books. I wasn't prepared to leave the Met but was interested. Then another angel entered my life, Doris Freitag. Doris was a book restorer at Harvard and her husband Wolfgang was a good friend of William Walker, my boss. Doris used to visit me in the bindery and while there, she encouraged me to enroll in the Columbia program, which was full-time but free if you were admitted. I'm sure that Doris' influence was in part responsible for Mr. Walker allowing me to take leave from work to attend Columbia.

While the things I have described were major events in my professional life, I have benefitted from countless other opportunities. Th s is partially why I am motivated to give back to people entering the fi ld, to my peers, and to the fi ld in general. I hope that my projects and their resulting publications have contributed to the work of others. The largest of these studies focuses on the Met's fi st bookbinder, Alfred Launder, on the 19th century book cover designer Alice C. Morse, on the history of objects made in book form, which I refer to as blooks, and the Paper Legacy Collection.

Kim: What can you tell us about the Paper Legacy Collection?

Mindy: First, I'll say that the Watson Library has always had, and continues to have, an interest in representing book arts. In recent years, we have greatly expanded our collections in the subjects of papermaking, decorated paper, bookbinding, and artists books. While most of the materials we purchase are published monographs and periodicals, we also acquire unique and rare trade catalogs and original specimens of historic papers. So, although it is unusual for a research library to create a unique, comprehensive study collection like the Paper Legacy Collection, the project is compatible with our collection development practices.

The Paper Legacy collection began in 2017 as I refl cted upon the enormous growth of book arts during my professional lifetime. Thi king through the contributions of artists involved in the various book and paper arts, I decided to create a collection for Watson Library that documented the artwork and careers of American decorated paper artists. My reasons were based on many things, including the beauty of the work, its broad presence in American culture since the 1970s, a lack of documentation about contemporary American decorated paper, and the fact that most of the artists were still available to interview. Initially, my goal was to build a study collection of paper, augmented by biographical and professional information. I wanted this collection to have features that I had missed in other collections I knew of. I viewed it as an artist-made collection and wanted to preserve artists' voices, as well as objects they generated. Th s is why I asked them to make their own selection (averaging 30 or so papers each), to describe the history of each paper, and to provide information and additional objects about their businesses and working methods that they thought would be of



Olaf (b. 1940); active 1969-1975*Purple Monochromatical Monomaniacal Merry-Go-Round*, oil-marbled paper, 1990. Artists' oil paint mixed with chemicals, solvents and paint additives, on machine-made paper, 14 ¼ x 9 ¾ inches (36.2 x 24.8 cm).

Olaf is a self-taught marbler living in Berkeley, California. Olaf's papers, which resemble microscopic organisms, were achieved with oil-based paints with solvents and time taken before transferring the image to paper. Olaf and John Coventry marbled together in Berkeley in a tank made from the hood of a Volkswagen bus. Although Olaf did not marble commercially, he contributed to the field a tistically and as an organizer of the Second International Marblers' Gathering (1992).

Thomas J. Watson Library, The Metropolitan Museum of Art, New York, Gift of Susan Pogány (Photo: Thomas J. Watson Library).

lasting relevance. It was important to encourage the artists and record their fi st-hand accounts.

By the conclusion of the project, fi y-three pioneering artists were documented. The artists selected were those who had revived the centuries-old practices of decorating paper, using techniques such as marbling, painting with paste, fold-and-dye, and stenciling. Their experimental approach, the tools and materials they employed, and the collaborative spirit they shared brought decorated paper to new heights of artistry and commercial success over the ensuing decades. Because of the large physical scale of the subject, we decided to select only the artists who were the prominent American professional decorated paper artists working from the 1960s to 2000s. They were selected for their commercial success, both in the US and abroad, and their contributions to the fi ld through education, research, publication, and technical development. Currently, the collection consists of over 1,500 decorated papers, as well as artists biographies, business archives, tools, objects made with the papers, and publications. It is fully catalogued, and much of it has been digitized and posted on the Library's Digital Collections database. Visitors can come to the Watson Library to view the collection in person and access it online (details at the end of this article). While we are not actively adding to this collection, we are continuing to collect in the book and paper arts.

Kim: How did your work on the collection evolve into the Grolier Club exhibition and book *Pattern and Flow. A Golden Age of American Decorated Paper*?

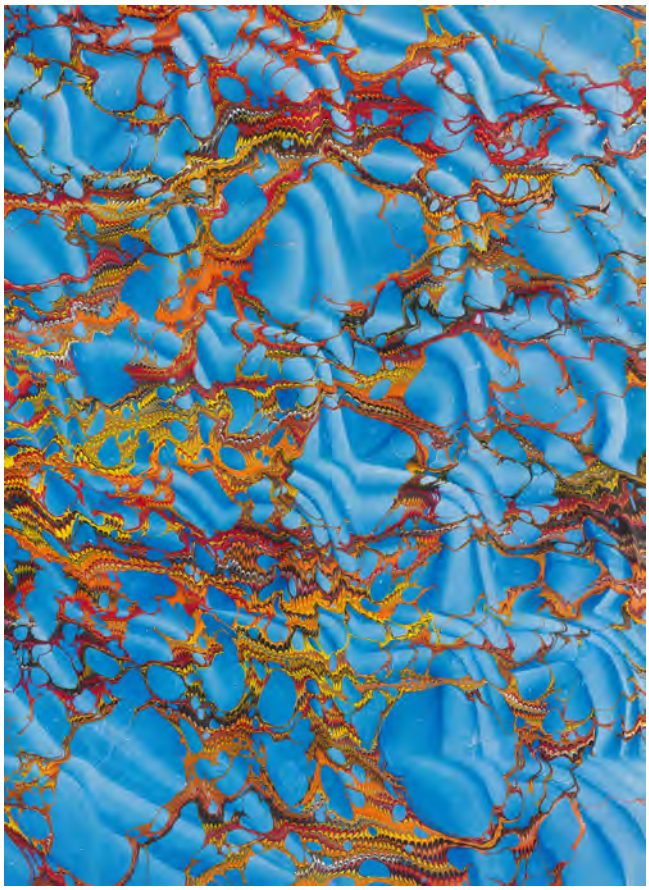
Mindy: My goal was to create a well-documented collection of paper for the use of future paper scholars and artists, not to curate an exhibition and write a book, but one thing led to another. Thi gs changed when the papers arrived. They were mostly hand-delivered by the artists over a two-year period. Meeting the artists, hearing their stories, and seeing their work created such a response of awe and delight from the Watson staff hat we all wanted more. In short order, Ken Soehner and Library Friend, Mark Tomasko, gathered the fi ancial and bureaucratic support we needed to move forward with the book and exhibition.

Kim: Tell us more about the book *Pattern and Flow,* and how it came to be.

Mindy: Building a collection is one thing, but interpreting the history of a fi ld is another. For that, I needed a team, and I looked to the artists for advice. While many Paper Legacy artists were focused on

their own work, others had always been committed to outreach and education. Those are the artists who helped me to understand and describe the general nature of the fi ld, while others contributed historical and technical details. Iris Nevins, Diane Maurer, Claire Maziarczyk, John Coventry, Mimi Schleicher, Richard Longstreet, Peggy Skycraft, nd Jack Townes were constant consultants throughout the project.

After listening to the artists and scanning the literature of the fi ld, including exhibition catalogs,



Regina St. John (1944); active 1984-. Chena River Marblers. *Swoon*, overmarbled paper, Chevron Gel-git pattern, 2017. Acrylic paint, on Neenah Texoprint paper, 19 ½ x 25 ½ inches (49.5 x 64.8 cm).

Regina St. John and her husband, Daniel, operate Chena River Marblers, in Amherst, Massachusetts. Regina specializes in contemporary acrylic marbling, while Daniel focuses on historic marbling technique. Both St. Johns teach internationally and marble commercially at their home studio, which has a sales shop for their paper and textile creations.

Thomas J. Watson Library, The Metropolitan Museum of Art, New York, Gift of Regina and Daniel St. John (Photo: Thomas J. Watson Library).

Faith Harrison (1950), active 1980-1994. Marbled paper, wave pattern, c. late-1980s. Proprietary ink on Mohawk paper, 18 3/8 x 15 ½ inches (46.7 x 39.4 cm).

Every baby boomer remembers the marbled Kleenex box issued since the 1980s, variants of which still appear today. The paper on original box was reproduced from one like this, made by Faith Harrison. Harrison's business, Decorated Papers, licensed, made, and sold marbled papers and related supplies. It was primarily located, in Easthampton, Massachusetts, a town of many book artists and fine p ess publishers which she supplied.

Thomas J. Watson Library, The Metropolitan Museum of Art, New York, Gift of Faith Harrison (Photo: Thomas J. Watson Library).

trade materials, books, and articles written by or about the Paper Legacy artists, and periodicals like the Guild of Book Workers Journal and *Ink & Gall*, I reached out to paper historian and collector, Sidney Berger. Sid eventually wrote the essay contextualizing earlier American decorated paper in *Pattern and Flow.* My survey of the literature convinced me that it was imperative for me to visit the organizers of the First International Marblers Gathering (1989), who all lived in or around in Santa Fe, New Mexico. Tom Leech, who worked for the New Mexico History Museum, commandeered space in his library for this purpose, and I was awarded a travel grant from the Met to go. Others who joined that day were Paper Legacy

artists John Coventry, Pamela Smith, Paul Maurer, Polly Fox, and Madeleine Durham, along with Dexter Ing, the publisher of *Ink & Gall*, and calligrapher Nancy Culmone. Th s and other visits with the artists contributed to my understanding of the subject. Once I established the story I wanted to tell in words and images, I put my mind to envisioning the book.

Kleenex "Classic Foil" tissue box, with marbled design by Faith Harrison, Kimberly-Clark Corporation, c. 1987.

This "Classic Foil" tissue box and iterations of it have been a staple in American homes since the 1980s. The commission was controversial among marblers, as Harrison was not suffici tly renumerated for the use of her design. Poor payment and copyright infringement were common problems for decorated paper artists. The first published guidelines for the licensing and reproduction of marbled work appeared over a decade later in the *Graphic Artists Guild Handbook: Pricing and Ethical Guidelines*, 1991.

Thomas J. Watson Library, The Metropolitan Museum of Art, New York, Gift of Faith Harrison (Photo: © Peter Jennings).

Th s was so important to me, because as someone who had dedicated their entire adult life to making and conserving books and knows how powerful a book can be, I recognized this as my opportunity and responsibility to make a book that would be both beautiful and transformational. For that, I needed a talented and patient designer with an affi ty for decorated paper, as well as an editor of similar ilk. Adding to the pressure, *Pattern and Flow* was the fi st book the Watson Library had ever self-published, and the learning curve was large, despite the previous experience I had with publishing.

I scoured the library and bookshops for books with designers who might have an affi ty for the papers but fi ally reached out to the Book Arts Web distlist. Only one response came, and I will forever be grateful to Roberta Lavadour for recommending her fellow Oregonian, Adam McIsaac, as a designer. There were many qualities of Adam's work that made me certain. One was his use of transparency, which was so compatible with the watery techniques used for decorated paper, and the other was his treatment of pages with extremely dense text. Editor Livia Tenzer was handpicked for me by my colleague, Peter Anthony, of the Met's Editorial Department. Livia, he knew, was intelligent and kind. It's still a wonder how both got behind this book, especially since we began just as COVID appeared. By March 2020, I had completed a draft f the artist's biographies section, but nothing else. Together, we three toiled throughout the pandemic and were glad to have this project to uplift s.

Kim: Were you happy with the results?

Mindy: I am happy with the book, and I jumped for joy when our distributor, Yale University Press, told me that they thought it would be "an instant classic" and we should print 3,000 instead of the planned 1,000. All went well, and I do feel very proud. Would I change anything if I had to do it again? Yes, a little, but not much. I'd make the captions larger and would have liked to have more photographs. As it was, it was expensive to produce, and I think we put as much into it as was possible.

Kim: And how did the show come to be at the Grolier Club?

Mindy: Both Ken Soehner and I were members of the Grolier Club, and I had curated two shows there previously, one on the book cover designer Alice C. Morse and one on my collection of book-shaped objects. Both had been successful, and the exhibition committee was supportive from the start. The Grolier, in fact, seemed to us the perfect location for an exhibition of decorated paper, and oddly enough, it had never had one.

Kim: Are there any anecdotes that you couldn't put in the book but would like to share?

Mindy: Naturally, there are many stories to tell, and wonderful things happened because of the Paper Legacy activities. I don't know about your readers, but I assume, like me, they are focused on books and deceased authors and less on living people. So, you can imagine how challenging it might have been for me to address the emotional and logistical needs of over fi y artists of a certain age. As Jack Towns told me, "It's not going to be easy. It's like herding cats." It was a challenge, and I learned so much. I was very impressed with the humility and talent of the artists, and it has been an honor and pleasure to get to know them and their histories. One of the pleasures of the project was the opportunity to introduce artists to each other, as many had never met. Another was seeing how the project inspired some artists who had stopped working, to work again.

There are a few crazy stories. One is about an artist whose work I loved. A friend sent me a sheet of his paper for the collection, and I had read about him in *Ink & Gall*. I wanted to fi d him, but many of the artists told me he died long ago from breathing the toxic solvents he used in for marbling. What a tragedy, I thought. When it came time to obtain photo permissions for the book, I contacted another artist to see if he knew if the artist had family I could speak to. He said yes and would try to fi d someone. Shortly after, I got a call saying, "I heard everyone thought I was dead!" "Yes", I said, "I heard that from quite a few people, but isn't it great that you aren't, because now you can tell us how you made those amazing papers!" Shortly after, I received a beautifully written essay on his technique, something that all can now enjoy forever in the Paper Legacy Collection.

Robert Wu (1979-), active 2006-. Toronto, Canada. *Daisy Garden,* marbled paper, c, 2015. Proprietary paint, Arches paper, 24 1/8 x 18 1/8 inches (63.1 x 46.1 cm).

Robert Wu is a formally trained fine ookbinder and decorated paper artist based in Toronto, Canada. Wu produces two genres of marbled paper—a trademarked line, Marbled Graphics™, which includes marbled artworks depicting fanciful botanical or animal forms; and full sheets of paper with an overall pattern, often used by bookbinders.

Thomas J. Watson Library, The Metropolitan Museum of Art, New York, Gift of Robert Wu (Photo: ©Peter Jennings).

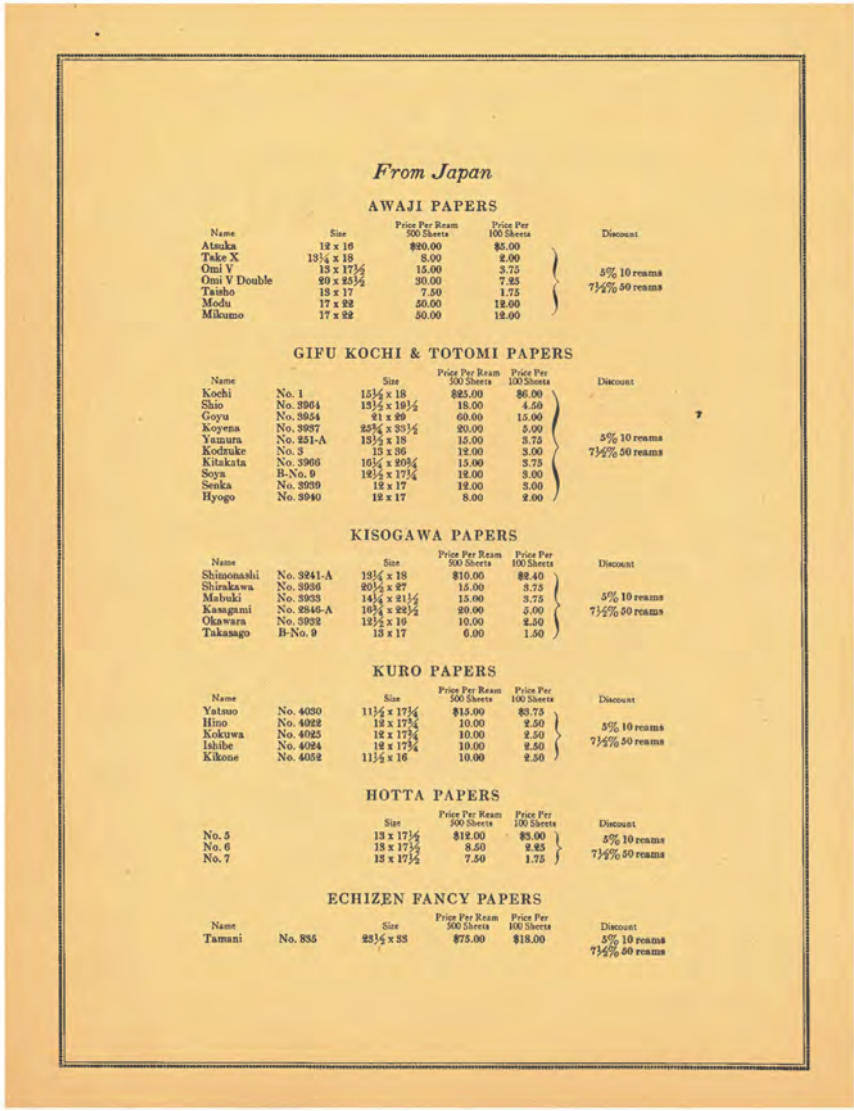
Kim: Can you tell us how our readers can have access to the Paper Legacy Collection?

Mindy: I sincerely hope that soon and forever, members of the Guild of Book Workers will visit the Paper Legacy Collection at the Thomas J. Watson Library. We welcome you all. You can access the collection on many fronts.

If you are already familiar with Watson Library, I suggest going right to our Paper Legacy Collection Resource Guide at www.metmuseum.org/paperlegacy. There, you will fi d links to the catalog records, a digital database of the papers, information about the Grolier Club exhibition, and related links.

To learn more about the Watson Library, visit www.metmuseum.org/library.

For more about my history, readers can listen to this podcast, an episode of Helen Hiebert's Paper Talk, recorded in April 2021: https://podcasters.spotify.com/pod/show/paper-talk-helen-hiebert/episodes/Mindell-Dubansky-evuhjg.



From Japan

AWAJI PAPERS

Name	Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
Atsuka	12 x 16	$20.00	$5.00	
Take X	13¼ x 18	8.00	2.00	
Omi V	13 x 17½	15.00	3.75	5% 10 reams
Omi V Double	20 x 25½	30.00	7.25	7½% 50 reams
Taisho	18 x 17	7.50	1.75	
Modu	17 x 22	50.00	12.00	
Mikumo	17 x 22	50.00	12.00	

GIFU KOCHI & TOTOMI PAPERS

Name		Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
Kochi	No. 1	15½ x 18	$25.00	$6.00	
Shio	No. 3964	13½ x 19½	18.00	4.50	
Goyu	No. 3954	21 x 29	60.00	15.00	
Koyena	No. 3937	25¾ x 33½	20.00	5.00	
Yamura	No. 251-A	13½ x 18	15.00	3.75	5% 10 reams
Kodzuke	No. 3	13 x 26	12.00	3.00	7½% 50 reams
Kitakata	No. 3966	16¼ x 20¾	15.00	3.75	
Soya	B-No. 9	12½ x 17¾	12.00	3.00	
Senka	No. 3939	12 x 17	12.00	3.00	
Hyogo	No. 3940	12 x 17	8.00	2.00	

KISOGAWA PAPERS

Name		Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
Shimonashi	No. 3241-A	19¼ x 18	$10.00	$2.40	
Shirakawa	No. 3936	20½ x 27	15.00	3.75	
Mabuki	No. 3933	14¼ x 21½	15.00	3.75	5% 10 reams
Kasagami	No. 2846-A	16¾ x 22½	20.00	5.00	7½% 50 reams
Okawara	No. 3932	12½ x 16	10.00	2.50	
Takasago	B-No. 9	13 x 17	6.00	1.50	

KURO PAPERS

Name		Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
Yatsuo	No. 4030	11½ x 17¾	$15.00	$3.75	
Hino	No. 4022	12 x 17¾	10.00	2.50	5% 10 reams
Kokuwa	No. 4025	12 x 17¾	10.00	2.50	7½% 50 reams
Ishibe	No. 4024	12 x 17¾	10.00	2.50	
Kikone	No. 4052	11½ x 16	10.00	2.50	

HOTTA PAPERS

	Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
No. 5	13 x 17½	$12.00	$3.00	5% 10 reams
No. 6	13 x 17½	8.50	2.25	7½% 50 reams
No. 7	13 x 17½	7.50	1.75	

ECHIZEN FANCY PAPERS

Name		Size	Price Per Ream 500 Sheets	Price Per 100 Sheets	Discount
Tamani	No. 835	23½ x 33	$75.00	$18.00	5% 10 reams 7½% 50 reams

Figure 1. First of three pages listing *washi* varieties sold by the Japan Paper Company, the predecessor of Andrews/Nelson/Whitehead. From *Price List of Papers from China, Japan, Korea, France, Italy and Sweden* dated January 1, 1924. Image courtesy of the William Ready Division of Archives and Research Collections, McMaster University Library. Photo credit Bronwen Glover.

WASHI IN THE WEST– PART ONE

WASHI WORDS: JAPANESE PAPER TERMINOLOGY IN WESTERN CONSERVATION PRACTICES

AMANDA GOULD, LAURA HASHIMOTO, NATASA KRSMANOVIC

Throughout the history of repairing books, manuscripts, and works of art, confusing terminology has been used to describe the often lightweight, translucent paper and non-paper materials employed in the care of these forms of tangible cultural heritage. In that context, this article re-examines evidence concerning some of the more important repair materials currently used in Western conservation practices: Japanese papers. Presented in multiple parts, the article is structured somewhat chronologically, and with a concentration on twentieth century Anglo-European and -American resources and practices. "Japanese vellum" and "silk tissue," imported into America by the Japan Paper Company (JPC) of New York, are among the Japanese papers whose names can cause confusion and are discussed in Part One. In Part Two, these and other papers will be considered within the realms of practice that the profession now divides into library and archives and fine art on paper conservation. Part Three will review the determinants of quality affecting the Japanese papers imported into America in the twentieth century followed by an examination of their dissemination and use via case studies that include the work of early book conservators practicing in the United States and Canada. Their repair materials will be discussed in tandem with extant paper samples and related resources originating from Japanese paper exporter The Moriki Paper Company, U.S. paper importer and distributor Andrews/Nelson/Whitehead, and the American Guild of Book Workers Supply Committee.

—Amanda Gould, Laura Hashimoto, Natasa Krsmanovic

Note: *The authors advise that this article contains offensive historical language and content that refer to ethnic groups. The authors fully acknowledge systemic colonial, racist, and prejudicial practices such as but not limited to exoticizing, othering, and the use of abbreviated demonyms as pejoratives: inclusion of this language is done not to excuse or perpetuate its use, but to retain the historical record.*

INTRODUCTION

It is easy to substantiate the importance of Japanese papers to the professions of book and paper conservation. Books and journal articles published on aspects of the subject in the latter twentieth and early twenty-first centuries abound. Many of these publications in addition to conference proceedings, especially of those held to mark key anniversaries in the development of the profession, attribute the wider adoption of Japanese papers for repair—what some have termed "long-fiber mending" or the "Florence method"—to practices that developed out of the 1966 Florence flood salvage efforts.[1] Much of this Western conservation literature focuses on traditional Japanese paper production and on the ongoing adaptation of East Asian tools and materials for use in the conservation treatment of tangible Western cultural heritage. What has been given less attention however is the longer, pre-1966 timeframe in which Japanese papers have been available and used in Western heritage conservation practices, the factors that have affected the manufacture of Japanese papers for export to the West, and how Western collections care practitioners have understood the available products and their marketing.

As will be re-examined, published evidence suggests that repair using Japanese papers and starch pastes existed before or alongside the use of other relatively thin, translucent repair materials and adhesives for decades before, beginning roughly at the turn of the twentieth century, silking and other lamination procedures superseded the practice in some Western locales (Lydenberg and Archer 1931: 43-6; Marwick 1964: 42-4; Smith 2016: 3, 81, 91-3, 221-3, 356-7; Norris and Boodle 2020: 81-3). One of the factors that complicates the interpretation of earlier repair records and thus any investigation of the above, is that while in current practice edge losses, holes, and tears in paper substrates are considered as three different types of damage, in earlier repair practices these were all considered and described as one and the same (Smith 2016: 221). Despite this, what can be established is that mending tears, infilling losses, and the creation of false margins or overall lining with Japanese papers and wheat starch pastes in fact became the principle practice for the first time only in *some* Western locales, but in others was actually re-adopted after 1966. In establishing this, our questions are specifically about the varieties of Japanese papers available to, recommended, and employed by Western conservators in a one-hundred year timeframe between approximately 1880 and 1980. More than curiosity, the topic bears revisiting in the context of the generational turnover of practicing professionals. When assessing and documenting collections materials and their previous conservation treatment, it is useful to be aware of the Japanese paper varieties that have been available, recommended, and marketed for fine art on paper, book arts and the printing trades, and book and paper conservation. It is also beneficial when judging the potential use of any of the papers of East Asian manufacture marked "unknown" in the drawers of established conservation labs. Though these are likely predominantly post-Industrial Revolution *washi* with all their variation in quality (Moriki 2007), in the context of the ongoing decline in the number of skilled Japanese paper makers and the ever-increasing scarcity of high-quality raw materials for traditional paper making, our profession cannot afford to waste the papers stocked in the twentieth century (Association for Conservation of National Treasures; Ribbans 2020: 89, 92; Shigemasa 2019; Colbourne and Hori 2015; Hasegawa 2014).

ON TERMINOLOGY: *WASHI*

Despite the ubiquity of Japanese papers in modern conservation practices, we should not assume a common understanding of the Japanese word *washi*. Directly translated as "Japanese paper," the term *washi* was coined to distinguish imported or domestically produced Western-style paper from traditional Japanese papers, but it has sometimes since been used to mean any paper made in Japan, not just papers made using traditional Japanese materials and techniques.[2] The word *washi* is now also being used to market papers produced outside Japan that have similar look and feel to some traditional Japanese papers (Moriki 2019). The erroneous assumption that all papers marketed as *washi* are handmade of purely *kōzō*, *mitsumata*, or *gampi* has led some industry experts to use the term "heritage *washi*" in English to distinguish papers still made in Japan using domestically grown fibres and traditional production

methods, including washing, cooking, bleaching, sheet forming, and drying. "Heritage *washi*" are set apart from other papers made in Japan or elsewhere from mixed-origin fibres, which, while facilitating lower price points for the end product, necessitate the use of harsher cooking and bleaching agents and often employ faster than traditional drying methods.[3] It is these types of high quality, authentic or heritage *washi* that are revered and have in some cases earned the designation of Intangible Cultural Heritage.[4] Th t is not to suggest that the wide range of Japanese or other East Asian papers are without great utility or merit, only that we must do our due diligence in determining what is meant when we encounter or employ the word *washi* (Moriki 2007: 23).

Doubtless, this confusion over terminology comes in large part from the unavoidable reality that Western retailers of Japanese or other Asian papers have appended their own names to different papers to facilitate their marketing and record keeping. They, in turn, typically purchase from paper dealers or middlemen in the home country, who, for various reasons, may have appended *their* own names to aid in their sales to customers abroad. Layered on top of this is the fact that paper in East Asia has always been made in many different houses or mills, each with their own preferred paper names, fibre sources, and methods of manufacture. Typical Western consumers expect consistency and to be able to repeatedly source familiar products using specific *washi* names, especially when those names evoke a rich history. While at times importers like Andrews/Nelson/Whitehead and its predecessors stretching back to the Japan Paper Company (figu e 1)[5] established trusted supply chains, and even though several early twenty-fi st century retailers have similarly trusted sources, the craft f papermaking has undergone changes in materials and techniques that, within decades or less, often impact the characteristics of a familiarly "named" paper.

As a result, clarity of language remains difficult when discussing this subject, that becomes apparent as we wade through various terms—proprietary and non-proprietary, generalizations and short forms, misnomers and codes.[6] Despite these realities, the authors believe that retracing the history of *washi* adoption in conservation is important to the story of the fi ld and will help contemporary practitioners better identify, describe, and make use of such papers. For the sake of consistency, the authors will use the word *washi* to refer to the many unnamed papers discussed throughout the article when we reasonably believe these papers originated in Japan, regardless of whether we know for certain their fibre content or other particulars of their manufacture, with the proviso that this approach is inherently flawed (Table 1).

washi	Literal translation: *wa* (Japanese) *shi* (paper)	Traditional (manufacture and content)
		Non-traditional (manufacture and content)
	Japanese tissue Japanese paper	
	Importer or distributor appended name papers (in the convention of tradition, industry, fibre, location, etc.)	
	Transparent tissue Transparent paper Rice paper Mending tissue* Silk tissue* Japanese vellum* Japanese copy paper*	

* All four of these names were found to have been used both generically and specifically: they exist as an importer/distributor appended name as well as a common phrase, often used interchangeably throughout source documentation.

Table 1:This table demonstrates the various terms that the authors have found could fall in some capacity under the umbrella of washi when considering context and meaning in source texts, with acknowledgement of the sometimes tenuous links between the generic form and the functional names found in the last section of the chart, as indicated by the dashed line.

EARLY RECORDS OF *WASHI* USE

Evid ence o f Wester n pra ctitio ners using *washi* for the repair of paper-based tangible cultural heritage can be found in nineteenth and early twentieth century published works and in the records of collecting institutions that have retained evidence of their own past collections care efforts. Christine A. Smith discusses the earliest recorded and presumed uses of translucent repair materials for library and archival substrates in her book, *Yours Respectfully William Berwick*: *Paper Conservation in the United States and Western Europe 1800-1935*. Examples cited include a reference to "silk paper" being used in repairing manuscripts in the state archives of Massachusetts and the New Hampshire Historical Society as early as 1837 (Smith 2016: 73; Marwick 1964:

50). An earlier author, Claire S. Marwick, (1921-2022), cites evidence of the use of "Japanese paper" for the repair of manuscripts in the Netherlands at least as early as 1858, and in Italy perhaps before, but by no later than the 1870s (Marwick 1964: 50-1).[7] Marwick goes on to indicate that *washi* was in use in England no later than 1883, as evidenced by documentation of practices at the Bodleian Library, Oxford, examined in the context of the St. Gallen Conference of 1898, understood to be the first international conference on the effort to preserve iron gall ink inscribed manuscripts (Marwick 1964: 51-2). In connection with this conference, E. W. B. Nicholson (1849-1912), Bodley's Librarian, had prepared a sampling of various translucent, or as they're more commonly referred to in earlier texts, "transparent," support materials tested for their suitability for mending or lining (Table 2). The Bodleian used four translucent materials laid down with "both flour paste and an unnamed gum" to the pages of bound newspapers to test the legibility of the text through the mending materials (Smith 2016: 63). The volume containing the materials tests is still extant.[8]

"Transparent paper"	"The best European transparent paper" = Western manufacture
Goldbeater's skin	Translucent film prepared from the outer membrane of the large intestine of large mammals, usually oxen, historically used as a layer separating pieces of gold leaf during the final stages of beating
Silk crêpeline	Sheer, open-weave form of the textile made from the cocoons of Bombyx mori moths
Japanese silk paper	Assumed to be *gampi* fibre paper of East Asian manufacture

Table 2: The four "transparent" mending materials tested by Bodleian Library staff ci ca 1898 (St. Gallen c.1429).

On the occasion of its one-hundredth anniversary, the conference that took place in St. Gallen in northeast Switzerland in 1898 was referred to as the "mother of all restoration conferences" ("Conference" 1998: 69). St. Gallen was primarily attended by directors of European libraries and archives, with a total of only 18 participants from eight countries. However, articles and reports about the conference were widely disseminated (Smith 2016: 76).[9] Early conferences such as St. Gallen and other efforts aimed at increasing professionalization, such as the formation of national library associations, encouraged and facilitated communication both nationally and internationally such that information exchange between collections care practitioners of the period, or at the very least those who supervised them, expanded signifi antly by the end of the nineteenth century (Smith 2016: 72).

FLORENCE FLOOD AS CATALYST

In tra cing the us e of trans lucent materials in the repair of manuscripts, Marwick, at the beginning of her chapter titled "The History of Transparent Paper in Document Restoration," cited Kiyofusa Narita's 1954 publication, *Japanese Paper-Making* in order "to establish historically the circumstances and the route whereby Oriental tissue of modern vintage could have reached the shores of Italy, *one of the early Western users of transparent paper for archival purposes*" [emphasis added].[10] There are several records of the likely presence of *washi* in the West and the use of relatively thin, translucent materials like *washi* for manuscript repair in Italy in the nineteenth and early twentieth centuries. These include trials by Father Frans Ehrle at the Vatican Library pre-and post St. Gallen (Smith 2016: 221-3), and testimony indicating that *washi* was in such demand for manuscript repair for a period in Italy that Italian papermakers had reason to produce a facsimile of the thin yet strong tissues evidently in use there prior to 1920 (Botha 1921: 43). Despite this, it is unknown whether British bookbinder and restorer Peter Waters (1930-2003) and his colleagues put forward to their Italian counterparts the notion to use *washi* in their repair efforts in Italy after the flood, or if the practice had persisted in some Italian libraries and archives when other Western practitioners had transitioned to silking (as at the Vatican) or used other repair methods and materials in the first half of the twentieth century. However, current Italian research indicates that in the history of book and paper conservation in Italy, just as in Australia, Canada, the United Kingdom and the United States, the Florence flood is considered a turning point at which the use of Japanese tools and materials, especially *washi*, became more prevalent in restoration practices (Giostrella 2023: 53).

The intention to use *washi* and wheat starch paste for mending during the Florence salvage operations

appears in the first-hand account, the "Narrative Diary and Timeline," of Peter and Sheila Waters as published in her 2016 book, *Waters Rising*. In her May 10, 1967 entry, master calligrapher Sheila Waters (1929-2022), describes her first task in Florence as having been to "design, do the finished calligraphy, and draw the symbols for the record card" (Waters 2016: 104). The cards, essentially treatment proposal summaries, were made to accompany each Biblioteca Nazionale Centrale di Firenze (BNCF) book treated after the flood. The repair material options that could be selected from under the heading "TYPES OF PAPER" on the cards included "Japanese mending" amongst other tissues.[11] Whether their intention to use *washi* for mending came about before or after stocks of paper were donated to the cause is unclear from the accounts, though it seems that donated *washi* could have arrived in Florence for their use before May of 1967, meaning in the six months after the flood occurred on November 4, 1966.[12]

The Florence flood is now seen as a catalyst which transformed the field in terms of scale, profile, and innovation (Silverman in Waters 2016: 4; Rushfield and Stoner 2016; Ogden 1979). To many it has become "the day modern art conservation was born" (New York University 2006). Sherelyn Ogden's 1979 article "The Impact of the Florence Flood on Library Conservation in the United States of America: A Study of the Literature Published 1956-1976" quantified the various impacts the flood and its need for mass, in-situ treatments had on the field of book conservation. Did the flood and ensuing treatment paths distinctly change the trajectory of book conservation — was it an event that truly revolutionized the profession by catalyzing the development and proliferation of new materials and techniques (Spande 2009: 195-198; New York University 2006)? Ogden examines this narrative by comparing the treatments completed in response to the disaster in Florence to an in-depth survey of library conservation literature written in the ten years pre- and post-flood. She reached the more nuanced conclusion that the flood accelerated the use of *washi* in book conservation, but that based on the literature survey, its use was not new per se. Regarding the use of *washi*, Ogden notes:

> The Japanese paper and paste method was used widely in the restoration work in Florence and represented a change from the usual practice of using Western papers and beveling both the edges of the mending paper and the edges of the missing area of the object to form a perfect fit (Ogden 1979: 6).

Ogden continues:

> The Florentine salvage operation appears to be solely responsible for the rapidity of the change in mending techniques considered acceptable for materials of value as artifacts. The use of Japanese paper and paste was mentioned in the pre-flood literature but was not widely practiced before the flood; this technique was used widely in Florence and is now the preferred technique for mending materials of value as artifacts (Ogden 1979: 23).[13]

The qualifiers of "represented a change" and "rapidity of the change" are important when we start looking at timelines of *washi* use and trying to track its early adopters in Western conservation.

ON TERMINOLOGY: JAPANESE VELLUM

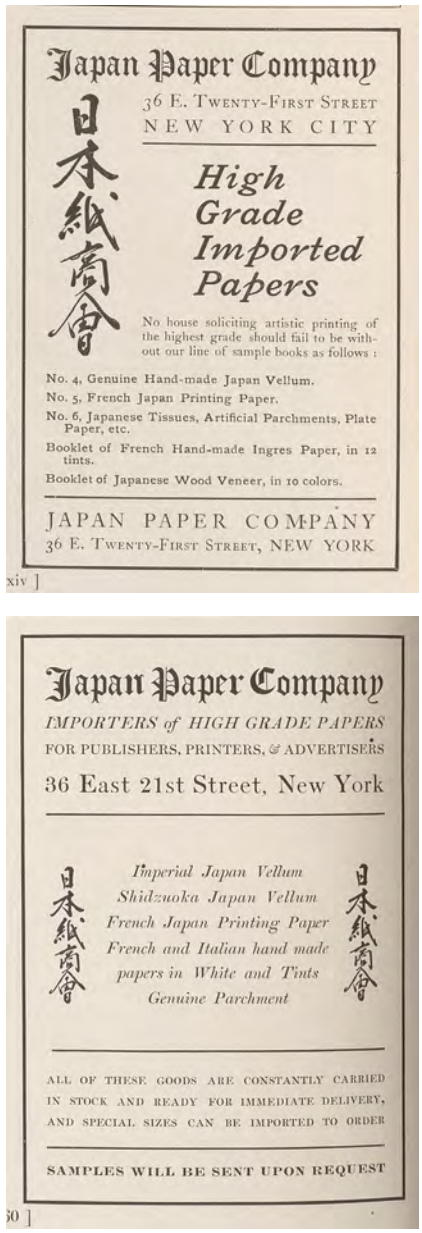
If Ogden and others' work confirmed that *washi* was being used in the U.K. and the U.S. in the ten years prior to the Florence flood, and as early as the 1850s elsewhere, what specific varieties of *washi* were Western practitioners using for mending in the first half of the twenthieth century? In his 1901 *Bookbinding and the Care of Books*, noted British bookbinder Douglas Cockerell's recommendation to fellow binders names "'Japanese Vellum,'" (Cockerell 1901: 282) in its thickest form as a repair material for vellum books, and in its thinnest form as a repair and strengthening material for paper."[14] At first encounter, Cockerell's use of the name "Japanese vellum" to refer to a type of *washi* seemed odd to us, accustomed as we were to the term "Japanese tissue," and what we had expected as far as naming conventions. As the word "vellum" implies a finer grade of parchment, we speculated it gave the same notion of quality to the *washi* that somewhat resembles some vellum in thickness, texture, and colour. Though Westernized,

the references to "Japanese vellum" in Cockerell did provide a starting point: a date, a pseudo-named *washi*, and an instruction/description of conservation methodology.

Cockerell (1870–1945) authored at least ten works on bookbinding and related subjects, and *Bookbinding and the Care of Books* now exists in at least twenty-seven editions. Before being recruited to respond to the aftermath of the Florence flood, Peter and Sheila Waters were undoubtedly familiar with Cockerell's recommendations through his publications, their direct association with Douglas' son Sydney (Sandy) Cockerell (1906-1987), and their relationship with their mentor and Cockerell's (and later Waters') business partner, Roger Powell (1896-1990) (Conroy 1990: 67). The Waters' and others, those who were or became prominent figures in the field,[15] surely brought this knowledge to the 1966 Florence flood response, where collaborative practice and research led to the adoption of materials and the development of methods now common in the conservation profession. However, the authors could not find mention of "Japanese vellum" in the texts regarding the salvage operations, once again making it difficult to draw concrete conclusions about how conservation professionals have used these terms in referencing *washi*, often leading to speculative dead-ends. When encountering overly general phrasing such as "Japanese paper" used as a monolith, we risk misinterpreting the writer's meaning and further perpetuating confusion.[16] By narrowing the focus of our examination of the history of *washi* use in conservation to specifically-named *washi*, we hoped to shed light on the issue of *washi* nomenclature. We then began a literature search to discover what happened to "Japanese vellum" in the 120 years since Cockerell published his manual.

One of the earliest *washi* records found in Washington, D.C.'s National Gallery of Art Paper Sample Collection is a sample book, dated 1902, that includes "Japanese vellum" from the Insatsu Kioku [sic] Mill. The sample book was produced by New York based paper importer the Japan Paper Company, which was established in 1901.[17] The company's 1903 advertisement in the periodical *The Printing Art* boasts:

> For several years the demand for Japan Hand-made Vellum has been steadily increasing. It is used for editions de luxe and limited editions by most of the well-known publishers. Our stock is large and includes the beautiful products of the "Insetsu Kioku [sic]," or Imperial Mill of the Japanese Government, and the "Shidzuoka [sic] Mill," for both of which we are the *sole American Agents* [emphasis added] … (*The Printing Art* 1, no. 1: v).

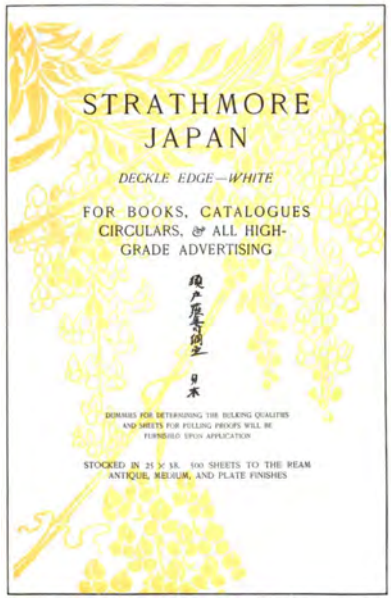


Figures 2, 3: Advertisements from the Japan Paper Company, found in *The Printing Art* 1, no. 6: xxiv (left) and *The Printing Art* 4, no. 1: 60 (right). Images courtesy of the University of Minnesota Libraries.

While the JPC feted the mill for its quality "Japanese vellum" production, early advertisements perpetuated the misspelling of Shizuoka and Insatsu Kyoku, thought perhaps to be a result of English phonetic spelling or pre-standardization of the romanization of the Japanese language.[18] Though the error was minor and later rectified, it represents one of the challenges in identification and naming consistency. The major demand for both Insatsu Kyoku and Shizuoka Mill "Japanese vellum" (figures 2, 3), is substantiated

by the swift introduction, at least as early as 1903, of American-made equivalents purporting to improve on their predecessors (figures 4, 5, 6).

The popularity of "Japanese vellum" in the art-production market, in addition to its rising cost, was such that competitors in the late nineteenth to early twentieth centuries developed their own versions, imitating the very first iteration in look if not in quality, which became known as *simili-japon* or *japon* (Jenkins 1992: 64; Dwan 1993: 112-131). The JPC distinguished themselves as sole distributors of "Genuine Hand-made Japan Vellum, Imperial Japan Vellum," and "Shidzuoka [sic] Japan Vellum," in 1903-1904, but notably also stocked "French Japan Printing Paper" (*The Printing Art* 1, no. 6: xxiv; 4, no. 1: 60). There is compounding confusion upon the realization that imitation *japon* papers were in fact made in Japan in the nineteenth century, and only later did European and North American companies produce *simili-japon*.[19] The evidence of a competitive market is seen among the same advertisement pages for the JPC, with the Mittineague Paper Co. of Massachusetts taking a full page ad in a 1903 issue of *The Printing Art* periodical refuting the notion of its "Strathmore Japan" as an imitation, and instead as "embod[ying] the merits of the Imperial Japan and avoid[ing] its faults…" (*The Printing Art* 2, no. 3: opp. 58). Ongoing competition is evident still decades later. In their glossary of paper terms of 1954 (first edition 1923), Spalding and Hodge Ltd, the eminent paper house founded in the late eighteenth century in the U.K., defines "Japanese vellum" as "an extremely costly hand-made Japanese paper manufactured from the inner bark of the mulberry tree." They then claim *japon* as "a British-made substitute for 'Japanese vellum' put upon the market by Spalding and Hodge" that "is so close an imitation of the genuine article that it has been mistaken for it by the Japanese importers." Interestingly, they further characterize an entry of "Jap Simili" as "a term used in the Far East for a superior grade of hard-sized wood-free printing [sic - perhaps the word 'paper' is missing here] having a peculiarly characteristic look-through" (Spalding and Hodge 1954: 34). As these examples exemplify, the wide range in marketing terminology used in the past sometimes created product distinction by using corruptions and abbreviations of foreign names or implying ethnicity using terms common in the era (terms now considered derogatory slurs or isolating "othering" practices), while also contributing to multiple levels of misinformation.



Figures 4,5,6: Three Strathmore Japan advertisements from the Mittineague Paper Co., found in *The Printing Art* 3, no. 5: opp. 126 (left), *The Printing Art* 2, no. 3: opp. 58 (middle), *The Printing Art* 2, no. 5: opp. 120 (right). Images courtesy of HathiTrust.

In 1909, JPC president Richard Tracy Stevens (1865–1941), informed by his 1905 visit to Japan, elaborated on the production of "Japanese vellum" for English language readers in a booklet printed on "Japanese vellum" in a limited edition of 500 copies,

identifying the paper's primary fibre as *mitsumata* (Stevens 1909: 3). As early as a year after their founding and for decades after, the JPC was producing sample books dedicated to the company's "Japanese vellum" from the Shizuoka Mill, offering it in five (in reality six) weights (Table 3), each separated in some sample books by an interleaf of "Japanese silk tissue" (figure 7).[20]

Each weight of "Japanese vellum" was accompanied by descriptions suggesting a particular artistic use as well as employing the language of long-term preservation (Walsh, Summer 2001: 21; Walsh and Dirda 1999: 78-9). The Number 0 weight of

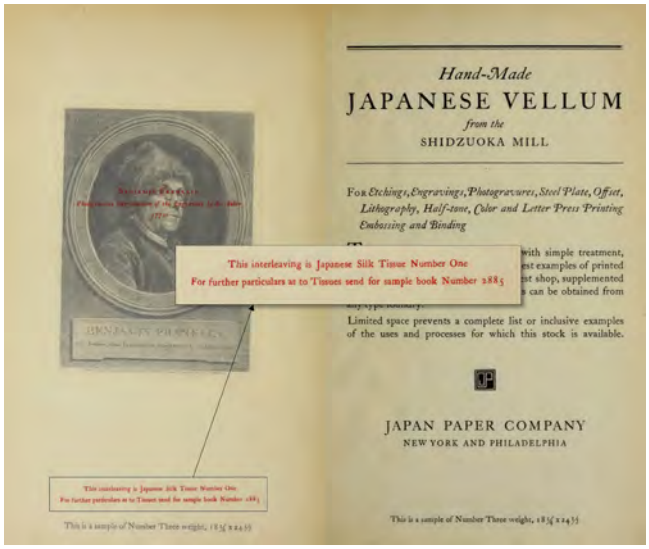


Figure 7: Japanese Silk Tissue Number One used as an interleaf in a Japan Paper Company sample book of hand-made Japanese vellum from the Shidzuoka [sic] Mill (Japan Paper Company May 1922: [6]). Image courtesy of Internet Archive.

Shizuoka was said to be "used for Mending Books and old Manuscripts." The Number One weight was "valuable for Back Bones and End and Side Papers in Bookbinding," perhaps consistent with Douglas Cockerell's use of the same Japanese papers, and the Number Three weight was made "such that it will withstand the ravages of time and last indefinitely." It is no surprise that the early twentieth century advertisements target the art-producing market, focusing on the qualities that lend "Japanese vellum" to the etching and engraving processes with which the target audience would be most familiar. However, the 1927 version of the JPC's sample book "Handmade Shidzuoka [sic] Japanese Vellum Paper" further emphasizes the preservation utility of the Number 0 weight that was given less emphasis in sample books from years prior by bearing the following standalone statement on the final page of the book:

> This is a sample of Number 0 weight Handmade Shidzuoka [sic] Japanese Vellum Paper which, due to its strength, lasting properties and transparency, is used for mending and preserving books and manuscripts.

This slight but significant adjustment in advertising strategy could suggest a perceived shift in the market and demand for a high-quality material that found a niche in the preservation-conservation field in America. By August 1916, JPC announced a ten percent price increase in their "Japanese vellum," though such a change was surely exacerbated by WWI (*The Printing Art* 27, no. 6: 580). Just six months earlier, in February 1916, the price per ream (500 sheets) of their hand made Shizuoka "Japanese vellum" #0 weight in the same two sizes had cost 12.00-13.00 USD (Japan Paper Company February 1916). Perhaps an increased demand for "Japanese vellum" #0 weight was also a factor in the JPC's discount offerings: fluctuating from a five percent discount for ten reams in 1916, to a ten percent discount for five reams in 1921, and then to a ten percent discount for 15 reams in 1922 (Japan Paper Company February 1916; Japan Paper Company November 1921; Japan Paper Company May 1922).

References to the use of "Japanese vellum" in conservation can be found in other early twentieth century published works. One is, E.S. Lumsden's *The Art of Etching* of 1924:

> It [*Torinoko*/"Japanese vellum"] is relatively very much more expensive than the other two classes of paper - all "vellums" are - and at the time of writing (1924) at an almost prohibitive price when obtainable at all.[21] Even before the terrible earthquake [presumably the Great Kantō Earthquake of 1923 that ignited fires throughout Tokyo], these papers were sold at a ridiculous figure, and no doubt it is true that stocks in the hands of middlemen were lost in Tokio [sic],

Washi	Bulk	Price per ream (500 sheets) in 1922
Shidzuoka #0 Weight, two sizes	Bulk per ream of 500 sheets = 1 inch	$26.00 - $28.00
Shidzuoka #1 Weight, five sizes	Bulk per ream of 500 sheets = 1.5 inch	$29.00 - $52.00
Shidzuoka #2 Weight, ten sizes	Bulk per ream of 500 sheets = 2.5 inch	$49.50 - $149.00
Shidzuoka #3 Weight, nine sizes	Bulk per ream of 500 sheets = 3.5 inch	$70.00 - $166.00
(no #4 in sample book)	N/A	N/A
Shidzuoka #5 Regular Weight, one size	Bulk per ream of 500 sheets = 4 inch	$198.00
Shidzuoka #5 Extra Weight, one size	Bulk per ream of 500 sheets = 4.5 inch	$276.00

Table 3: List of Shidzuoka [sic] Japanese vellums sold by the Japan Paper Company, based on sample books issued circa 1916-1927.

though, so far as I know, it is not manufactured to any extent in that district…

There can be no doubt whatever about the durability of this paper when not adulterated, and this particular make was said to be in use by the Japanese Government for important documents…It was specially recommended to me by the late Mr. Littlejohn, of the British Museum Mounting Department, who employed it for backing valuable old work which had to be lined, etc. (Lumsden 1924: 143-44).[22]

In *The Care and Repair of Books* published in 1931, "Japanese vellum" is described as a useful stub or hinge with which to facilitate interleaving and rebinding, as explained methodically in the section on the repair and mending of books (Lydenberg and Archer 1931: 56). In 1935, a well-known American practitioner is recorded as having used "Japan vellum" in her work at the American Philosophical Society (Wolcott 2020: 120). Then in 1936 another well-remembered early conservator stated that the "so-called Japanese vellum forms an ideal mount for Japanese prints," and that "although it is a hard paper the surface will not bear cleaning by the ordinary dry methods as it is very easily rubbed up" (Plenderleith 1937: 53). The JPC marketed this latter characteristic of showing marks and erasures as a security feature of stock employed for printing cheques and contracts (Japan Paper Company May 1922: [21]).

In 1948, an American restorer of Japanese prints offered a little more detail on his recommendation as well as a direct link to the source:

Paper used for mats is usually known as Japanese vellum, and is rather expensive. As far as known it is obtainable only from the Japan Paper Company (Stevens-Nelson Paper Corp.), New York. Th s paper comes in different sizes and weights, and the above mentioned company carries in stock 'Number 5 weight,' the most suitable for print mounts, size 25 ¾" x 37 ¾," which will make two ordinary mounts. The heavy weight of this size is preferable to the regular weight, although a little more expensive (Schraubstadter 1948: 73-4).

Come 1952, another practitioner wrote in his manual *Basic Bookbindi*ng that "Japanese vellum is used for the best work as guards and mending strips" (Lewis 1952: 12). After about this date however, use of the term "Japanese vellum," though not the use of the papers themselves, all but disappears from Anglo-American and -European resources.

Approximately twenty-five years later, Sukey

"Japanese vellum" sample	Mill	Date		Fibre Analysis
#2 weight #3 weight	*Insetsu Kioku* [sic] /Imperial/Government Mill	Sold in 1910 from the JPC	1916 sample book from the JPC	*mitsumata*
#2 weight #3 weight	Shizuoka Mill			*mitsumata*
#1 weight	Shizuoka Mill			85% *mitsumata,* 15% wood pulp
Interleaving paper	Shizuoka Mill			95% *mitsumata*, 5% wood pulp
Torinoko	unknown			55% *kōzo*/45% *mitsumata*
Mokuroku	unknown			90% *mitsumata*/10% wood pulp

Table 4: The same results were reported by Dwan and Okawa in their analyses of samples of papers of the same name and weight from JPC sample books issued six years apart.

Hughes' formative 1978 reference *Washi, the World of Japanese Paper* indicates "Japanese vellum" is synonymous with *Torinoko*, of which *kyoku-shi* is a type, traditionally made using the *tamezuki* method (Hughes 1978: 191-2, 181-2).[21] In Penny Jenkins' 1992 "Vexed by Vellum Papers" article, the author cites Hughes as she comments on the confusion that "Japanese vellum" leaves in its wake (Jenkins 1992: 63). Both references point to the differing fibre compositions that both *Torinoko* and *kyoku-shi* have had, which run the gamut from *gampi*, *mitsumata*, *kōzō*, and chemical pulp, but which notably fall under the same names. Furthermore, Antoinette Dwan's 1993 article adds *Hōsho* and *Mokuroku* as two additional types of "Japanese vellum," and offers the composition of six samples of *kyoku-shi* sold in 1910 by the Japan Paper Company via fibre analysis (Table 4) (Dwan 1993: 112-13). Dwan's results correlate exactly to those reported by Mr. Akinori Okawa, former researcher of The Kochi Prefectural Paper Industry Technology Center, in his analysis of the same named papers in a 1916 Japan Paper Company sample book (Table 4) (Masuda 2023).

The following graphic explores various terminology and the variations surrounding "Japanese vellum" in an attempt to link confirmed information on *washi*, regardless of time period in which the associations occurred (figure 8).

Speculation that due to world events the term "Japanese vellum" fell out of fashion alleviated some of our confusion around the disappearance of the anglicized term from the conservation lexicon, though the research to date did not substantiate any one reason. The "Japanese vellum" distinction was dropped by the JPC in favour of simply "Shizuoka" and "Inomachi," both names appended in the convention of location of production. We gain some further clarity regarding the range of tissues that "Japanese vellum" encompassed, later described as falling under what we now understand to be *Torinoko* and perhaps *Hōsho.* Again, this fuels the speculation that "Japanese vellum" was a marketing term used to appeal initially to the artistic field, and often focused on the thicker, smooth and high-sheen, semi-opaque, cloudy formation *washi* with "peculiarly characteristic look-through" that indeed recall their vellum namesake in appearance. However, at the same time,

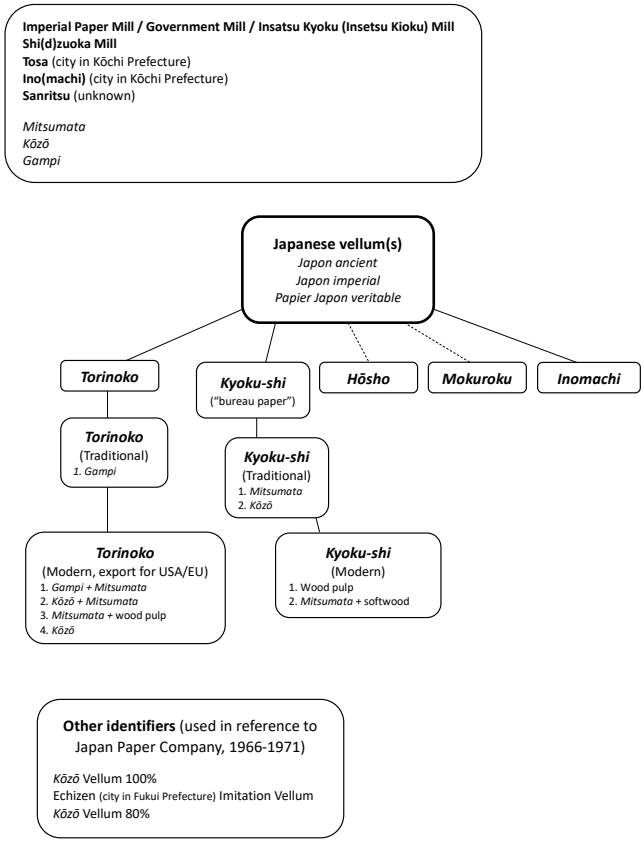


Figure 8: The graphic comprises information from Sukey Hughes', Penny Jenkins', and Antoinette Dwan's publications touching on the history of "Japanese vellum," bringing together the many identifying terms associated with this *washi*, spanning location, fibre content, primary use, and/or traditional translation, to demonstrate the staggering variety possible. Additionally, the graphic brings in the notion of the imitations and alternatives that the interest in "Japanese vellum" brought about. The authors add further nuances in composition thanks to Nancy Jacobi, founder of The Japanese Paper Place and the unpublished 1960s notebook shared by Shinji Moriki (1936-2019) of the Moriki Paper Company, *washi* distributors to North America since the early twentieth century, including to the JPC. Though the name "Japanese vellum" does not appear in the 1960s Shinji Moriki notebook, several weights of "(Shizuoka) Japanese vellum" do appear in A/N/W sample books continuing into the 1970s[23]

"Japanese vellum" referred to very thin, lightweight, and translucent *washi* of less than 30 g/m^2 or 18 g/m^2, and almost simultaneously targeted the audience concerned with book and paper repair. Furthermore, the exact knowability of "Japanese vellum" is mired in conflicting information of accounts, fibre test results, and the normal challenges of increasing production

for a foreign market. The evidence we've found does not answer what any given "Japanese vellum" is, but perhaps what it *might* be.

However, to return to the first mention of "Japanese vellum" the authors noted in Cockerell's 1901 treatise: despite what we initially believed to be his apparent colloquial use of the term "Japanese vellum," and the lack of supplier information, the research into the very early contemporary distributor advertisements leads us to believe that Cockerell was not casually recommending a generic version of this *washi*, but more than likely pointing to the specific *washi* of which he was aware in its many thicknesses and uses in the care and treatment of books. Interestingly, as Stevens wrote that "Japanese vellum" was exported in only small quantities after about 1880 to first Paris, then London, Cockerell could have had perhaps ten but no more than twenty years of experience with it by the time he published his book in 1901 (Stevens 1909: 5-6). Stevens also noted that the Shizuoka Mill was established after the First China–Japan War (25 July 1894 – 17 April 1895), and took some time to get up and running, so the first "Japanese vellums" that Cockerell had access to were probably from the Imperial Mill and therefore he was initially exposed to those of only the highest quality (Stevens 1909: 5-6).

ON TERMINOLOGY: SILK AND TISSUE OR "SILK TISSUE"

That the JPC and its descendant the Stevens-Nelson Paper Corporation (and *its* descendants Nelson-Whitehead and then Andrews/Nelson/Whitehead) sold a *washi* named "silk tissue" (figure 7), means that the word silk, like the words vellum and parchment, has also been used to not only compare and describe, but to *name* a material that is actually paper. JPC president Richard Tracy Stevens reported in his 1909 booklet that "silk tissue" was at that time produced in small batches by over three thousand families living along the Nagara River in Mino Province (now Southern Gifu Prefecture). He described the *gampi* fibre papers as strong but at the same time "almost as thin as cobweb," and indicated that "silk tissue" was so-named owing to its "fine silky finish" (Stevens 1909: 7,8). The paper-making families sourced their *gampi* fibre from wholesalers in Gifu who would then buy-back the finished sheets for resale, much of it by this time to distributors in America (Stevens 1909: 7).

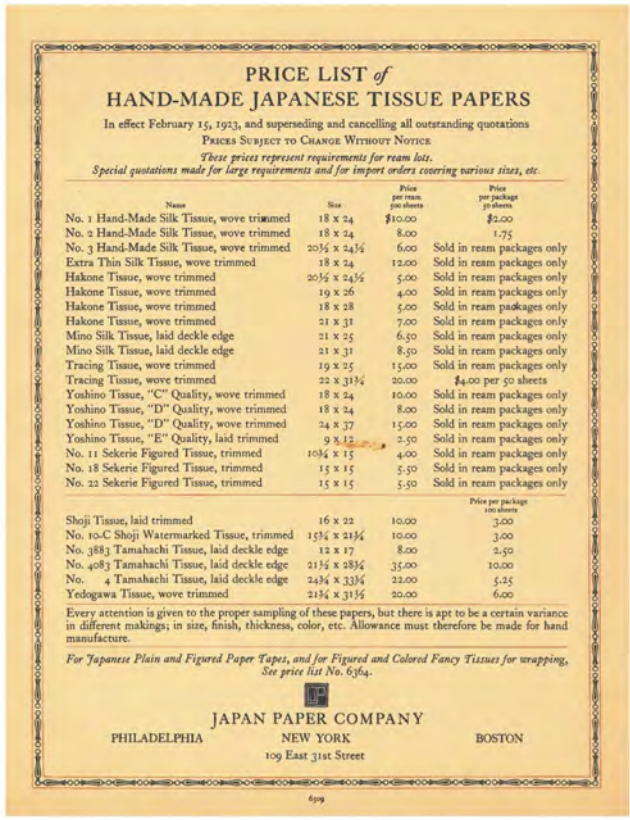
The Bodleian experiment shows at least how early the word silk was applied in English to thin papers of Japanese origin (we do not know if the silk paper used in America in the 1830s was Japanese), though it could have been employed centuries earlier (Marwick 1964: 50-1). Herein lies significant potential for confusion. How often has silk tissue (paper), also called Japanese silk (paper), been confused with the genuine silk textile that is made from the cocoons of silkworms that eat the leaves of mulberry bushes? As previously noted, "silking" in the conservation profession is a method used frequently in the late nineteenth and early twentieth centuries to preserve important papers by laminating them between sheets of thin white silk or crepeline (Yale University Library 2016; Marwick 1964: 67-103; Plenderleith 1956: 60-61). This confusion would be compounded when the *washi* in question was made of *kōzō,* the fibre from Japanese paper mulberry (*Broussonetia x kazinoki*) plants used in Japanese paper production. It is not difficult to imagine someone confusing the lightest weight of one of the *washi* varieties most frequently exported to the West in the late nineteenth and early twentieth centuries and using the term "silk tissue" to refer to a lightweight "Japanese vellum" such as Shizuoka #0.[24] *Washi* that have been called "Japanese vellum," including Shizuoka, *Torinoko*, and *kyoku-shi*, have all at times been produced using *kōzō* fibre, and in the case of the lighter weight variations of these *kōzō* fibre *washi*, could then have technically been called "mulberry silk tissue" by anglophones.

Latter twenthieth century paper terminology dictionaries from the U.S. define "tissue papers" in a way familiar today, as a class of papers "made in basis weights lighter than 18 pounds" of any type of pulp. This definition was included in the four editions of *The Dictionary of Paper* published in 1940, 1951, 1965, and 1980, as well as Roberts and Etherington's 1982 *Bookbinding and the Conservation of Books: A Dictionary of Descriptive Terminology*, which cites the 1965 edition of *The Dictionary of Paper*. However, an older American resource, the "Dictionary of Pulp and Paper Mill Terms" first published in 1922 in both the *Paper and Pulp Magazine of Canada* and *The Paper Trade Journal*,[25] states that tissue, very fine, usually

unsized, nearly transparent paper, was "so-called originally not from its texture but from its use in separating the folds of fi e silk tissue" (Canadian Pulp and Paper Association August 3, 1922: 649; *"Dictionary"* September 7, 1922: 49). It is interesting to note in the context of the confusion surrounding *washi*-related terminology that the standardization of paper, including the raw materials, manufacturing processes, end products, their common uses, *and the terms used to describe them*, became a preoccupation of the paper industry in the U.S. and Canada as of the early 1920s (Rindfusz August 3, 1922: 643-45; July 27, 1922: 636). Th s may have been the case in the U.K. as well, considering that the dictionary prototype created by the two national paper industry bodies predates the fi st edition of the Spalding and Hodge glossary by just one year. While it includes defin tions for the terms "Japanese Copying," "Japanese Paper," "Japanese Vellum," and "Paper Mulberry," (Canadian Pulp and Paper Assocation, June 29, 1922: 539; July 6, 1922: 559), the American dictionary prototype does not combine the words silk and tissue as a stand-alone entry in the list of defi ed terms.

E.J. Labarre also used the defin tion that associates the word tissue with interleaving silk in his multilingual dictionary of paper and paper-making terms fi st published in Amsterdam in 1937 (Marwick 1964: 48, footnote 16). As in the case of "goldbeater's paper,"[26] or "silver tissue," one or more papers were manufactured specifi ally for use in interleaving another product, in this case silk textile. Presumably the manufacture of the several *gampi* fibre "silk tissues" amongst the Japanese tissues that the JPC offered was originally driven by the silk textile industry (figu e 9) (Table 5). An interesting interdependency to contemplate, considering that *gampi* fibre papers were often made on a silk screen which served to keep the delicate fibres from escaping (Tindale 1952: xxi). The silk screen or *sha* was traditionally a fi e white silk mesh that was placed over the *su* to enable the formation of the very thin handmade Japanese papers that are free of laid and chain lines (Barrett 1983: 82, 305; Denhoed 2007: 18; Prestowitz and Katayama 2018: 90).

Returning to the above-cited dictionaries, the Spalding and Hodge glossary *Paper Terminology* of 1954, revised from editions published in 1923 and



PRICE LIST *of*
HAND-MADE JAPANESE TISSUE PAPERS

In effect February 15, 1923, and superseding and cancelling all outstanding quotations
Prices Subject to Change Without Notice
These prices represent requirements for ream lots.
Special quotations made for large requirements and for import orders covering various sizes, etc.

Name	Size	Price per ream 500 sheets	Price per package 50 sheets
No. 1 Hand-Made Silk Tissue, wove trimmed	18 x 24	$10.00	$2.00
No. 2 Hand-Made Silk Tissue, wove trimmed	18 x 24	8.00	1.75
No. 3 Hand-Made Silk Tissue, wove trimmed	20½ x 24½	6.00	Sold in ream packages only
Extra Thin Silk Tissue, wove trimmed	18 x 24	12.00	Sold in ream packages only
Hakone Tissue, wove trimmed	20½ x 24½	5.00	Sold in ream packages only
Hakone Tissue, wove trimmed	19 x 26	4.00	Sold in ream packages only
Hakone Tissue, wove trimmed	18 x 28	5.00	Sold in ream packages only
Hakone Tissue, wove trimmed	21 x 31	7.00	Sold in ream packages only
Mino Silk Tissue, laid deckle edge	21 x 25	6.50	Sold in ream packages only
Mino Silk Tissue, laid deckle edge	21 x 31	8.50	Sold in ream packages only
Tracing Tissue, wove trimmed	19 x 25	15.00	Sold in ream packages only
Tracing Tissue, wove trimmed	22 x 31½	20.00	$4.00 per 50 sheets
Yoshino Tissue, "C" Quality, wove trimmed	18 x 24	10.00	Sold in ream packages only
Yoshino Tissue, "D" Quality, wove trimmed	18 x 24	8.00	Sold in ream packages only
Yoshino Tissue, "D" Quality, wove trimmed	24 x 37	15.00	Sold in ream packages only
Yoshino Tissue, "E" Quality, laid trimmed	9 x 12	2.50	Sold in ream packages only
No. 11 Sekerie Figured Tissue, trimmed	10¾ x 15	4.00	Sold in ream packages only
No. 18 Sekerie Figured Tissue, trimmed	15 x 15	5.50	Sold in ream packages only
No. 22 Sekerie Figured Tissue, trimmed	15 x 15	5.50	Sold in ream packages only
			Price per package 100 sheets
Shoji Tissue, laid trimmed	16 x 22	10.00	3.00
No. 10-C Shoji Watermarked Tissue, trimmed	15¾ x 21¾	10.00	3.00
No. 3883 Tamahachi Tissue, laid deckle edge	12 x 17	8.00	2.50
No. 4083 Tamahachi Tissue, laid deckle edge	21⅜ x 28¾	35.00	10.00
No. 4 Tamahachi Tissue, laid deckle edge	24¾ x 33¾	22.00	5.25
Yedogawa Tissue, wove trimmed	21¾ x 31⅜	20.00	6.00

Every attention is given to the proper sampling of these papers, but there is apt to be a certain variance in different makings; in size, finish, thickness, color, etc. Allowance must therefore be made for hand manufacture.

For Japanese Plain and Figured Paper Tapes, and for Figured and Colored Fancy Tissues for wrapping, See price list No. 6364.

JAPAN PAPER COMPANY
PHILADELPHIA NEW YORK BOSTON
109 East 31st Street

6509

Figure 9: "Price List of Hand-Made Japanese Tissue Papers," including "Hand-Made Silk Tissue" and "Mino Silk Tissue," list 6509 as of February 15, 1923, in Japan Paper Company *Price List of Papers from China, Japan, Korea, France, Italy and Sweden* (Japan Paper Company 1924: 7). Image courtesy of the William Ready Division of Archives and Research Collections, McMaster University Library. Photo credit Bronwen Glover.

1936, does not include a defin tion for silk paper or silk tissue, and defi es tissue on its own as simply "thin papers of numerous grades" and purposes. The examples they cite include copying and interleaving, but they do not specifi ally mention interleaving with silk (Spalding and Hodge, 1954: 59). The fourth edition of *The Dictionary of Paper*, 1980, instead includes entries for "Silk Protection Paper," and "Silk Wrapper," both defi ed as sulfite or sulfate furnish paper used for wrapping bolts of silk. However, "Silk Protection Paper" is given a second defin tion in the 1980 edition, that is as a "writing paper having silk threads incorporated to give protection against duplication or counterfeiting" (American Paper Institute 1980: 373). Such "silk paper" — paper containing strands of silk thread — has been used for currency, the silk threads acting as a security device. One may thus fi d

Name, Description	Sheet Dimensions	Price per ream of 500 sheets in 1923
No. 1 Hand-Made Silk Tissue, wove trimmed	18 x 24 inches	$10.00
No. 2 Hand-Made Silk Tissue, wove trimmed	18 x 24 inches	$8.00
No. 3 Hand-Made Silk Tissue, wove trimmed	20.5 x 24.5 inches	$6.00
Extra Thin Silk Tissue, wove trimmed	18 x 24 inches	$12.00
Mino Silk Tissue, laid deckle edge	21 x 25 inches	$6.50
Mino Silk Tissue, laid deckle edge	21 x 31 inches	$8.00

Table 5: Selected examples of "silk tissues" from "Price List of Hand-Made Japanese Tissue Papers," list No. 6509 as of February 15, 1923, in Japan Paper Company *Price list of Papers from China, Japan, Korea, France, Italy and Sweden* (Japan Paper Company 1924: 7).

"silk" tissue or paper, excluding the various forms of "artific al silk" (Canadian Pulp and Paper Association January 24, 1923: 2), made from *gampi*, flax, sulphite, or sulphate pulp, as well as paper made partially of silk, as in the papers manufactured to deter counterfeiting and the silk fibre artist's papers developed in England in the eighteenth century (Krill 1996; 1997; 2002: 95-13).

In addition, like the cases of the "Japanese vellum" papers that included both several varieties of *washi* of different weights and fibres or fibre mixtures, their several Western imitations, and the "silk tissue" papers just described, multiple terms and end products were at play under the umbrella of the textile silk as used for repair:

> It is said that the use of gauze was fi st tried at the Vatican Library in Rome. . . . Different names are given at various places to the gauze used. Some use crepeline (Washington, Rome), chitton (University Library, Cambridge), also the trade name in Washington, crêpe-de-Chine (Brussels), and what the Record Office i London calls *mousseleine-de-soie,* which is used at the Laurentian Library in Florence. As the designation differs, so does the quality. In Congress Library, Washington, the crepeline is a mixture of cotton or silk gauze (or fi e, mercerized, bolting cloth). The quality of some of the material is very poor; the meshes are large and the strength very weak. The silk crepeline is at present very expensive, and no doubt many countries have to take this into consideration.

Both at the State Archives and the Vatican Library, Rome, a strong fi e silk crepeline made in France is used. It gives a very fi e result (Botha 1921: 43).

Roberts and Etherington's 1982 dictionary of terms specific o bookbinding and conservation includes an entry for "Japanese vellum," but not for "Japanese tissue" or "silk tissue." What practitioners would call Japanese tissue today is described under the term "Japanese Copying Paper" (Roberts and Etherington 1982: 143). Copy or copy*ing* papers, relatively thin, smooth, unsized, translucent papers that could be dampened in order to accept the partial transfer from a document or drawing executed in specially formulated copy or copy*ing* ink, had been needed in large quantities since James Watt patented the letter copy or copy*ing* press process (Watt 1780; Proudfoot 1972: 21-4, 29). Many of these papers were, in turn, undoubtedly used for repair work. Christine Smith discusses the origin and likely use of Western-made copying papers for repair in libraries and archives in the nineteenth century, concluding that their "prevalence and variety … almost ensures that collection caretakers used them as reinforcing or repair material" (Smith 2016: 74). One U.S. example of such paper was patented by William Mann (1814-1881), of Philadelphia in 1852 and marketed as "parchment copying paper." Mann's patent for improved copy paper manufacture indicated that he preferred to use "manila fiber" (presumably abacá) in combination with cotton, but that any equivalent thereof could be used (Mann 1852). Mann transformed this and other patents into a highly successful stationery and printing company that, like multitudes of other similar blank book manufacturers, included the production and sale of copy or copy*ing* books - bound volumes of blank copying paper ready for use in a copy press (Proudfoot 1972: 28-32). Copying books were in common use for over a century (Proudfoot 1972: 30). Th s explains the Spalding and Hodge entry for "copying paper" that defi es it as "a strong unsized tissue used for copying books" (Spalding and Hodge 1954: 19).

Regarding Japanese Copying Paper, Roberts and Etherington describe it as "a very thin, strong paper made in Japan from long-fibered stock such

as *mitsumata* and the paper mulberry," that may be used for various mending techniques and that is "also called 'long-fibered Japanese tissue'" (Roberts and Etherington 1982: 143). Richard Tracy Stevens of the JPC reported that at the time of his writing, thin yet strong "silk tissue" was "being used more and more by blank book manufacturers for the production of letter-copying books" (Stevens 1909: 7) (figu e 10). Th s was undoubtedly as true in America as it was in Britain, where Berrick Brothers of Kirby Street in London had been importing Japanese papers used in the production of letter-copying books since about 1868 (Proudfoot 1972: 31; Mzumura et al. 2017: 45). Though Stevens wrote his booklet about Japanese papermaking between 1905 and 1909, the foreign market for thin papers needed to feed the ever-advancing technologies of document copying had evidently been recognized in Japan decades before Stevens made that observation.

One Japanese paper expert credited with this recognition was Yoshii Genta (1826-1908). Born into a papermaking family in what is now Kochi prefecture, Genta worked throughout the Meiji period to develop and promote the Tosa *washi* of Kochi. Records left by Genta that are the subject of current investigation

Figure 10:"The Japanese Letter Copying Books are unsurpassed by any book made. The paper is strong …. and more duplicate copies can be taken on this paper than any yet made." Label from a trademark Japanese Letter Copying Book from the collection of Linda Marshall, Washi Arts, Blaine, Washington. Image courtesyof Linda Marshall.

by Japanese paper historians indicate that copy paper, (*kopī-shi*), that was originally made in Kochi after the Meiji Restoration began to be exported to foreign markets as of 1884. Th s date corresponds to the importation, also through Berrick Brothers in London, of the Japanese "kite paper" that David Gestetner used as the base for his patented waxed paper stencils (Gestetner 1885; Proudfoot 1972: 57). The waxed paper was an essential component in the stencil duplication of handwriting via what came to be the Gestetner Cyclostyle and the A.B. Dick Company Edison Mimeograph, apparati that were in popular use for decades (Proudfoot 1972: 57, 75; "Edison Dick Mimeograph" January 1923: 87; Mizumura et al. 2017: 44). The paper originally used by Gestetner became known commercially in the West as Takamatsu paper, its port of origin having been the city of the same name in central Kagawa Prefecture on Shikoku island (Proudfoot 1972: 57). Originally misunderstood by Gestetner as being made of bamboo, Takamatsu was reportedly a *gampi* fibre *washi* (Gestetner 1885; Pomeroy and Pomeroy 1895).

For Yoshi Genta, the years between 1881 and 1887 were a period of successful development and exhibition of *kopī-shi* and other Tosa *washi* at several Japanese Industrial and World's Expositions.[27] Along the same timeline, the stencil duplication of handwriting that began circa 1885 progressed into the stencil duplication of typewritten text only a few years later. Th s advancement required yet another Japanese copying paper. That *washi*, as refl cted in the patent granted to John Broderick of New York, was known commercially in the West in that time period as Yoshino, after a river that runs through Kochi and Tokushima prefectures on Shikoku (Broderick 1886: 2; Proudfoot 1972: 82-3). Yet the *washi* was known in Japan, and is better known outside Japan today, as *kōzō* fibre Tosa *tengu-jo* (Proudfoot 1972: 82; Mizumura et al. 2017: 44). The demand for all varieties of Japanese copying paper in these years grew, such that Genta could report in his diary that export of *kopī-shi* was fl urishing by 1890 (Murakami 2023).

As the development of office pying processes continued, more patents for improvements to *washi*-based stencil papers resulted (Pomeroy and Pomeroy 1895; Gestetner 1909), and Japanese copying papers continued to win prizes in early twentieth century American expositions ("Prize Winners" December 1905: 38). However as with all commercial products in high demand, market forces began to

The various fibre compositions of copy paper (*kopī-shi*) per grade circa 1903	
1	100% *gampi*
2	20% *mitsumata*/ 80% *gampi*
3	40% *mitsumata*/ 50% *gampi*
4	Miscellaneous mixed fibres

Table 6: The fib e compositions of Japanese copy paper (*kopī-shi*) grades made in Kochi prefecture circa 1903 as recorded in the diary of Tosa paper expert Genta Yoshii. From the 2023 exhibition 'Printing Paper Exported during the Meiji Period,' curated by Professor Yayoi Murakami (Murakami 2023). English translation courtesy Kayoko Moriki-Ichinomiya.

affect the supply chain. As of 1893, to keep the price low for export, what had originally been 100% *gampi* fibre *washi* became a mixture of *gampi* and *mitsumata* and other fibres (Table 6). "Yoshino Tissue" was also available in different grades at different price points (figu e 9).

Japanese copying paper was thus as prevalent world-wide as its Western-made counterparts, and as likely, as refl cted in the Roberts and Etherington defin tion, to be used in repair throughout most of the twentieth century. So while the JPC marketed thin, *gampi* fibre *washi* made in Mino as "silk tissue" to artists and the printing industry for many decades, the same and similar papers were used for letter copying books and stencil duplicating processes and were known in the West both generally as Japanese copying, and specifi ally by the commercial names *Takamatsu* and *Yoshino*. The demand for these papers for the purpose of copying continued from the late nineteenth century until well after World War II (Proudfoot 1972: 30; Mizumura et al. 2017: 44). As the technology of office pying developed, what also followed was the change in defin tion of copy papers, which have become the multi-purpose papers used in inkjet and laser printers and in photocopy machines such as the Xerox 914 plain paper copier introduced in 1959.[28]

Considering the above, a conservator reading early conservation literature may be excused for being confused, just as earlier practitioners were, not only between papers of various fibre compositions and places of manufacture that were described and marketed using similar terms, but also between entirely different materials such as paper and silk. While it is possible to differentiate silk and *washi* when examining objects repaired with these materials, the instructions and descriptions in nineteenth and early twentieth century sources are not always clear in making this distinction. In addition, even if one is certain that the material referred to in a resource is in fact paper, there have been several both East Asian and Western-made varieties called "silk tissue," "silk paper," or "copying paper," amongst other nomenclature. Articles and advertisements in popular American trade journals of the time show how confused and confusing the Japanese paper products were to even those in the paper and related businesses:

> Japanese exports of paper during the past year have been limited to printing paper, rice paper, gampi (a thin paper), tissue paper, torinoko paper, and others which are special products of this country ("Japan Paper Industry Moribund" May 1923: 138).

Even today, a search for "Silk Tissue" in one Anglo-American resource designed for the profession, the Conservation and Art Materials Encyclopedia Online (CAMEO), returns an entry for "silk paper." The entry currently provides just one defin tion of silk paper, that is as a "thin tissue paper made from linen in Persia in the Middle Ages" that "contained on[e] or more strands of silk running through each sheet." Another prominent online resource, the Art & Architecture Thesaurus (AAT) Online, though it does not contain an entry for either silk tissue or silk paper, does remind users that tissue paper, therein described as thin, smooth, translucent, and primarily used for wrapping and protecting delicate surfaces, is referred to in French as *papier de soie* (sometimes spelled "*soye*" in older resources), meaning silk paper. While any specific roduct named "Silk Tissue" would be outside the scope of the AAT, both of these prominent Anglo-American professional resources of today are as yet incomplete in regards to the variety of types of silk tissue papers that have existed, including the French and English varieties of the eighteenth and nineteenth centuries and the *washi,* specific nd generic, that have

been referred to as "silk tissue."

CONCLUSION

Of all of the manuscript repair methods and materials reviewed by Claire S. Marwick after mid-century, "regrettably," as she noted, transparent tissue has "yielded least to … intensive search[es] for source data, and the problem of filling the lacunae in its historical trail remains unresolved" (Marwick 1964: ii). As book and paper historians and conservators concerned with the accurate identification and characterization of materials and practices, we are faced with the reality that the issue of gaps in the historical record (Ridgen 2015: 4) has been compounded by the imprecise language employed in extant documentation. Marwick warned that "while there is a distinct difference between genuine Japanese tissue and all others, many have used the term indiscriminately, treating it as a generic expression to denote any tissue with transparent properties" (Marwick 1964: 62). A review of Marwick's sources and others verifies her statement. "Japanese tissue/paper" was indeed used as a generic expression. Even the seemingly more specific terms "Japanese vellum" and "Silk tissue," though they were used to name specific products, were each also used to refer to and market multiple papers of varying fibre composition, weight, translucency, intended use, location and perhaps methods of manufacture, amongst other characteristics. This has in some instances made their distinction from the silk textile and other non-paper materials used in repair processes as unclear. Which has meant, as Christine Smith laments in her 2016 work on William Berwick, that the "ad-hoc vocabulary prevented [and continues to prevent] colleagues from understanding what others had used when good or bad results were reported" (Smith 2016: 76).

Marwick also wrote that "it is especially important in view of their multiplicity and sometimes great differences in their composition, therefore, that precise distinctions be drawn among them, and that more specific labels be attached where it is possible to do so" (Marwick 1964: 56). At the time of Marwick's writing, though it had not yet fully come to pass, the use of more specific names in the conservation literature had begun. As will be further explored, the recommendation of a wider variety of *washi* available under names new to Western practitioners began to appear in the paper conservation literature in the second half of the twentieth century. In the years leading up to the 1966 Florence flood, library and archives conservators were influenced by fine art on paper conservators and vice-versa. This resulted in two influential publications, one on the care of books, the other on the care of fine art on paper supports, that each shifted from using a generic term such as "Japanese paper" or "Japanese tissue" to including the names of *washi* varieties recommended for specific repair tasks. These names were seemingly more specific but perhaps, as will be discussed in Parts Two and Three, no less confusing.

The article was peer reviewed.

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NOTES

1. Chapter 2 of a paper and leather conservation

manual published in 1978 is titled "Mending Book and Document Paper with Long Fiber Japanese Tissue Using the Florence Method" (Mucci 1978). According to a later letter to the editor about the manual and reaction to it, 550-600 co pies of it had been sold by 1980, so the authors assume that it was widely read at the time (Aronsson 1979; Pickwoad 1982). In both the 2009 and 2016 proceedings of the symposiums commemorating the fortieth and fi ieth anniversaries of the Florence fl od, Anthony Cains and Don Etherington each refer to the "long fibre technique" of repair using Japanese paper (Conway 2018: 55; Devine 2005: 15, 17, 20). Cains indicated in a 2009 publication that "the long fibre Japanese paper infilling technique [was] brought [to the BNCF in Florence] by Peter [Waters] following a visit" to the workshop of Otto Wächter (1923-2010), in Vienna, which took place in late May 1967 (Spande ed. 2009: 51; Waters 2016: 109, 359).

2. It is perhaps common knowledge that today many machine-made Japanese papers are composed of traditional fibres, while many handmade papers incorporate non-traditional or foreign-grown fibres and involve their requisite fibre cooking and bleaching products, but this is not a recent development: Alternative fibres, including wood pulp, have been used in some handmade Japanese papers since at least as early as the latter part of the nineteenth century, and cooking/bleaching with non-traditional agents and the use of faster methods of drying than traditional wooden drying boards have been practices employed in Japan since before World War I (Moriki Paper, "Key Points to Keep in Mind When Selecting Washi"; Colbourne and Hori 2015: 158; Moriki Summer 2007: 23; Masuda 1985:7).

3. The question of what is "real" or "authentic" *washi* has been a preoccupation for some time. In a 2006 conversation between scholar Yagihashi Shin and papermaker Kobayashi Yasuo captured in *Hand Papermaking Magazine*, "real *washi*" was defi ed as paper made from locally grown fibre cooked in a "natural ash," beaten by hand, formed using traditional formation techniques for its locale, and dried on wooden boards (Yasuo and Shin 2007: 12). In 2018, Takao Moriki, third generation President of the Moriki Paper Company "established an association in collaboration with six young papermakers (*Oguni-Washi* Maker Hiroaki Imai, *Tosa-Washi* Maker Hiroshi Tamura, *Ogawa-Washi* Maker Takamasa Kubo, *Mino-Washi* Maker Eshi Kano, *Kurotani-Washi* Maker Shinji Hayashi, and *Sekishu-Washi* Maker So Kubota) to defi e 'authentic *washi*' and promote [their] papers." The association's "purpose is to differentiate the papers they make from other *washi*-like papers, most of which are made in China and Thailand at lower cost and distributed in many parts of the world as '*washi*' or Japanese paper" (Moriki 2019). The association, called the All Japan Handmade *Washi* Internationalization Council, has begun "working on building a 'traceability system' for all the conservation grade papers made by the six members of the association" with the hope that eventually "more papermakers [will] join [them] and use this system so that their papers are certifi d and recognized as 'authentic *washi*' offi ally in the global market" (Moriki 2021). "Heritage *Washi*" is now the term used by Moriki Paper Company's North American partner The Japanese Paper Place and their resellers across the globe to help distinguish higher quality, authentic *washi*, including the qualifying papers made by the six founding association members, from other papers marketed globally under the terms *washi* or Japanese paper. To qualify, the paper must "be made of 100% Japanese-grown fibre such as *kōzō*, *gampi* or *mitsumata*; cooked in soda ash, lime or wood ash–and NOT caustic soda; using formation aid of *tororo-aoi* or *noriutsugi*; unbleached except by sun or water (no use of chlorine); and formed by hand by highly experienced makers" (The Japanese Paper Place, 2022).

4. See UNESCO: https://ich.unesco.org/en/RL/washi-crafts anship-of-traditional-japanese-hand-made-paper-01001.

5. Japan Paper Company changed its name to the Stevens-Nelson Paper Corporation in 1939. Trade was interrupted while the world was at war and the Japanese w*ashi* makers and their families were occupied by the manufacture of the very thin, "transparent," paper used for Japanese balloon bombs or *Fu-Go* (Barrett 1983: 8-11). The *washi* trade resumed fairly quickly after the end of the war-the Allied Powers allowed civilian trade to resume in 1947 (Moriki Paper Company, "Story of Moriki Paper").

"Prior to the outbreak of World War II, American archival needs were supplied with Japanese tissue imported direct from Japan. When trade relations were ruptured after Pearl Harbor, American manufacturers were able to fill the void by producing a satisfactory substitute" (Marwick 1964: 56). Once trade resumed, dominance of the paper importation market by Stevens-Nelson and its descendents continued into the late twentieth century (Roessler 1988).

6. Regarding the most common misnomer, the term "rice paper" as still frequently used to refer to *washi* or other papers of East Asian manufacture is deliberately not addressed in this article. Several authors have made mention of the problematic use of this term: see note 16. Regarding codes, Japan Paper Company used the A. B. C. (telegraph) cable code fi h edition in transcontinental trade. The cable code words appear alongside the other names of the imported papers in many of their price lists (Albro 2021: 30).

7. Marwick uses the term "Japanese paper" in the body of her text on page 48. However, the term "Japanese tissue" in English was provided to Marwick in translation from a writer in The Hague. Writing pre-Florence fl od, Marwick devoted a chapter in her MA thesis in Library Science taken at The American University to the "History of Transparent Paper in Document Restoration" (Marwick 1964: 48, 51). Christine A. Smith has cited Marwick extensively in her own work on "acclaimed manuscript restorer," bookbinder and map-maker William Berwick (1848–1920), one of the early adopters of the "silking" process as a replacement for (problematic) transparent paper (Smith 2003; Smith 2016).

8. Marinita Stiglitz, current Head of Paper Conservation at the Bodleian Libraries and ICCROM/Tobunken Japanese Paper Conservation Course 2011 alumna, in a 2022 presentation titled Rethinking Conservation Practices at the Bodleian Libraries, showed current images of the exhibit cited by Marwick that was prepared in the context of the conference held in St. Gallen: E. W. B. Nicholson,"Report by Bodley's Librarian to the Curators of the Bodleian Library, on the Conference held at St. Gallen, Sept. 30 and Oct. 1, 1898, upon the preservation and repair of old MSS.," December 22, 1898 (Marwick 1964: 55; Smith 2016: 57-65).

9. The minutes of the St. Gallen conference were translated into English by Margit J. Smith and reproduced in the *Abbey Newsletter* (Smith 1998: 93, 96-99). In the addendum to the minutes, Nicholson conveyed that at Oxford, "transparent paper is ... used for covering paper manuscripts—chiefly Oriental—which have been much corroded by their own ink, and for covering Indian birch-bark manuscripts … the transparent paper used during the last 15 years does not seem to turn yellow, and in the last 7 or 8 years a quality has been obtained which possesses a higher degree of transparency" (Smith 1998: 69-99; Reissland 1997).

10. A graduate of DePauw University in Indiana, Kiyofusa Narita of the Oji Paper company wrote and published *Japanese Paper-Making* in English only four years after he founded the Papermaking Memorial Museum, see https://papermuseum.jp/en/about/history/. In addition to Narita (Narita 1954: 13), Marwick also cites Japanese paper scholar Bunsho Jugako, author of *Paper-making By Hand in Japan*, 1959, in tracing the route of *washi* from Japanese Jesuits to its arrival in Paris and London prior to 1664 (Marwick 1964: 45, 46). See also Mizumura et al 2017.

11. Images of the card, Sheila creating the card with Peter looking on, and of mending with heat-seal lens tissue cut with pinking shears and Japanese tissue water-cut with ruling pen appear prominently in literature surrounding the fl od. (Waters 2016: 421-23, 433-34; Waters Post-Flood 2016: 114, 116; Spande ed. 2009: 22, 23, 26, 48, 50-2; Cunningham-Kruppa 2019: 223)

12. Professor Katsuhiko Masuda notes that Japanese papers were donated to the Florence fl od effort "immediately after the fl od," by the Association of Conservation Studios of Japanese Paintings and Documents (Masuda 2016: 26). According to Takao Moriki, Japanese papers may also have been donated to the Florence effort by clients of Moriki Paper Company: The Society of Jesus in Tokyo, The Japan Paper Import Company (Japico) in Germany or Berrick Co. Ltd. (previously Berrick Brothers), paper merchants of London U.K. and Yokohama (Moriki 2019). Walsh and Dirda cite yet another donation of Moriki-supplied papers to Florence, this through Vera Freeman (1936-2012) of New York based paper

importer and distributor Andrews/Nelson/Whitehead (A/N/W); in describing the variety of printing papers stocked by the fine paper division of A/N/W in the 1960s and 70s, Walsh and Dirda comment that "… some of these could also be used in the conservation of historic or artistic materials. In fact, the company donated papers for the repair of books damaged by the floods in Florence" (Walsh and Dirda 1999: 79). It is unclear if A/N/W donated Japanese, Western or both types of papers. The need for blotting and similar paper for interleaving of books in the immediate aftermath was so great that the existing supply in Florence was quickly exhausted, and papers for interleaving were sent from England and other countries to be distributed by the American group CRIA (Horton, June 1967: 1040). At the same time, A/N/W in America ordered many reams of unadorned *washi* from Moriki Paper in early 1967, including *HOSHO, MASA, SEKISHU* WHITE and *MULBERRY*, not to mention 20 reams of MENDING TISSUE on March 11th followed by another 20 reams on May 30th [note that these names are transcribed in all-caps as they appear in the A/N/W sample books]. MENDING TISSUE wasn't included again in A/N/W's twice monthly orders until October 1967 (Moriki notebook 1967). Soon after funding was secured in January 1967, the British-backed fund, the IAARF, dispatched "tissue paper," some of it "mulberry paper," that was also needed for facing paintings (Spande ed. 2009: 153).

13. The phrase denoting materials, documents, or papers "of value" or "of lasting value" seems to have been adopted by practitioners in the field in the 1960s both to distinguish between collections materials whose preservation treatment could be undertaken by a non-"trained" or "experienced" conservator and those that should not, and to refer to materials that were suitable for use in the repair or preservation of those categories of collections materials, i.e. "The tissue used in mending documents of lasting value should be free of injurious acidity" (Clapp 1973: 57; Barrow 1967: 191).

14. When asked about evidence of the use of Japanese papers as repair material prior to the 1966 Florence Flood, Alessandro Sidoti, Restauratore Conservatore di Libri rari e Manoscritti, Biblioteca Nazionale Centrale di Firenze (BNCF), pointed out the references to Japanese paper in Douglas Cockerell's 1901 manual (Sidoti 2019). Cockerell mentions the use of Japanese paper or "Japanese vellum" on the following pages: 78 (mending a tear with "the thinnest Japanese paper, which is nearly transparent"), 84, 179, 214, and 282 ("The paper known as 'Japanese Vellum' is a very tough material, and will be found useful for repairing vellum books ; the thinnest variety of it is very suitable for mending the backs of broken sections, or for strengthening weak places in paper").

15. Paul N. Banks (1934-2000), Anthony Cains (1936-2020), Christopher Clarkson (1938-2017), Don Etherington, Deborah Evetts, Margaret Hey, Carolyn Price Horton (1909-2001), Joe Nkrumah (-2009), Stella Patri (1896-2001), Harold Tribolet (1911-1993) to name a few (Conroy 1990).

16. The confusing terminology has persisted such that the problem has required a statement of greater or lesser length in many works on the subject of *washi* in English (Hughes 1978: 171-72; Barrett 1983: 307; Kunikata-Cockram 2018: 72-76), or on the use or repair of paper-based cultural materials including the use of *washi* for the purpose (Smith, Jan., 1938: 3; Marwick 1964: 52, 56, 62; Zigrosser and Gaehde 1965: 67-8; Beauman Murphy and Rempel 1985: 71; Mizumura et al. 2015: 56-8; Smith 2016: 4, 76; Mizumura and Moriki 2017: 6-7; Prestowitz and Katayama 2018: 85). Several twentieth and twenty-first century authors of texts about paper have also pointed out the erroneous use of the term "rice paper" to refer to *washi* or to other papers of East Asian manufacture that are *not* in fact made of either rice or fibre from the rice plant, *Oryza sativa* (Hunter 1943 (1978): 6, 24-5; Hughes 1978: 29; Barrett 1983: 305; Grabowksi 1994: 18-22;Price 2022: 3-7; Kato 2023: 111; Berger 2023: 245, 396). The problem of defining papers is summarised in the efforts of the committee struck with the assembly of the *Dictionary of Paper* for the American Paper Institute, Appendix E, Philosophy of Definitions (American Paper Institute 1965, 1980: xi-xii, 476-480); the ongoing effort is seen in such works as Sydney E. Berger's *The Dictionary of the Book: A Glossary for Book Collectors, Booksellers, Librarians and Others*, now in its second edition, which gives separate dictionary entries for Japanese Paper, Japanese Tissue, Japan Paper and Japan Vellum (Berger 2023: 245-6).

17. The National Gallery of Art Washington Paper Sample Collection, sample number 2009.14 (unpublished) states "the sample lists the address of Japan Paper Company (JPC) at '225 Fourth Avenue New York City' which is crossed out and replaced with 'removed to 36 East 21st Street New York.' JPC was housed at 225 Fourth Ave in 1901 and moved to the 36th East 21st St. location in 1902. Date printed on sample is Feb 15, 1902." This appears to represent a period of rapid growth in JPC's business, as this was their third location since their establishment in 1901 (National Gallery of Art Washington Paper Sample Collection, compiled by Marian Dirda, Amy Hughes, and Carolyn Burns with gratitude to Judith Walsh, December 2020). https://www.nga.gov/conservation/paper-sample.html

18. A search of WorldCat shows that within the catalogued extant examples of The Japan Paper Company sample books of "Japanese vellums," the use of the "d" in "Shidzuoka" persists until at least 1927: https://www.worldcat.org/search?q=Japanese+Vellum+from+the+Shidzuoka+Mill+The+Japan+Paper+Company The authors encountered other minor differences throughout texts in addition to Shizuoka/Shidzuoka, including *Hosho/Hōsho* spelled with and without the macron, and Insatsu Kyoku/Insetsu Kioku. These variations may be attributed to changes in the standardised romanization of the Japanese language or an anglicised phonetic spelling of the word in effort to assist in proper pronunciation.

19. "It appears that 'japon' papers from the nineteenth century were in fact made in Japan and that not until the early twentieth century were European [and American] 'japon' vellum papers able to imitate Japanese vellums" (Dwan 1993: 113). The concept of imitation *washi* being made in Japan is confusing, and though Dwan does not elaborate, the authors speculate that in the context of scarcity of traditional local fibres the Japanese were using less expensive Western wood pulp to produce competitively priced "Japanese vellums" to meet the rising demand in foreign markets. Indeed, a *washi* in the unpublished Shinji Moriki 1960s notebook, see note 23, is named "Echizen Imitation Vellum," a descendent perhaps of earlier 'japons' made in Japan (Moriki notebook 1967). See also Canadian Pulp and Paper Association September 1904: 276-277, October 1904: 283-284.

20. The corporate archives of the Japan Paper Company did not survive (Albro 2021: 16) the many mergers and acquisitions in the paper business through the twentieth and early twenty-first centuries (Walsh 2001). The related resources that remain are the many sample books issued by the company under its various names, published material about the company and its major players (Krill 1978; Walsh 2001), and collections of paper samples and related materials such as the Harrison Elliott Collection of Paperiana, Rare Book and Special Collections Division, Library of Congress and the Paper Sample Collection at the National Gallery of Art (NGA) in Washington, D.C., "assembled by former NGA staff conservators Judith Walsh and Marian Dirda (both now emerita), and by current NGA paper conservator Amy Hughes" (Albro 2021: 16).

21. While the authors have not so far found a price charged for *Torinoko*/"Japanese vellum" from the period, in Japan Paper Company price list No. 6597, dated May 1923, a ream of *Inomachi* Vellum paper (telegraph code word *Dikbek*) cost $70.00 US, while a ream of *Sanritsu* Vellum Paper (telegraph code word *Sanvel*), was priced at $98.00 US. These prices exceed those of all of the other Italian, French, English, Spanish, and Swedish papers included in the same list of all handmade papers, the price per ream of which averaged about $35.00 US.

22. Mark Stevensen, 1995, calls Lumsden's *The Art of Etching,* "one of the best written and earliest printmaking manuals to discuss restoration techniques," in which Lumsden "drew extensively upon [the] British Museum publication" *The Cleaning and Restoration of Museum Exhibits*, 1921 (revised 1926) by Alexander Scott. Did Lumsden acquire the information about specific *washi* and their properties from early British Museum paper conservator Stanley Littlejohn (1876-1917), and/or did Littlejohn's preparatory notes for a publication about print and drawing restoration, completed before his untimely death in 1917 (Binyon and Colvin 1918), serve as a foundation for parts of the British Museum publication by Alexander Scott (1853-1947)?

23. A notebook supplied to Nancy Jacobi, founder of The Japanese Paper Place in Toronto, Canada by Shinji Moriki (1938-2019), second generation President of the Moriki Paper Company during the Moriki family's visit to Canada in 2015 records the quantities of *washi* ordered from the Moriki Paper Co. for shipment to America between 1965 and 1971 (Moriki notebook 1967; Gould et al. 2021: 154). While by those dates the company was operating as Andrews/Nelson/Whitehead, the notebook continued to use the name the Japan Paper Co. [*Nihon Kami Shoukai*], referring either to the original name of the American company formed in 1901 and/or to the trading company that acted between the Moriki Paper Company and their foreign clients until circa 1975 (Gould, et al. 2021: 154). That the orders recorded in the notebook are A/N/W's is assured by both its provenance and the presence in it of the name of A/N/W's Vice-President of Fine Paper, Vera Freeman (Albro 2021: 27). The unpublished Moriki notebook contains further references to "*Hosho*, double weight *Hosho*, *Kuzuki Hosho*, *Hosho* resinous, *Dosabiki* double weight *Hosho*, *Hosho* student grade, *Torinoko* white, *Hanakurabe Torinoko* white, 100% *Torinoko kozo*, *Koji/Kaji Torinoko,*" which further illustrate the complications in distinguishing *washi* by name, and remain susceptible to error due to transcription issues.

24. Visually compare Japanese "Silk Tissue Number One" with Shidzuoka [sic] "Japanese Vellum Number 0" on pages [6] and [11] of the Japan Paper Company's sample book of hand-made Japanese vellum online at: https://archive.org/details/samplesofhandmad00japa/mode/2up.

25. "In order to assist the work of the Joint International Committee on Education, the *Pulp and Paper Magazine* and the *Paper Trade Journal*, the official organs respectively of the Canadian Technical Section and the U. S. Technical Association, are publishing the "Dictionary of Paper Mill Terms" prepared for the Industry's Textbook. The first installment appears in this issue. Readers are requested to advise the editor of any errors, omissions, ambiguity or superfluity that may be noticed. Corrections will be made as the publication progresses.—Editor" (Canadian Pulp and Paper Association June 1, 1922: 449 (A-B), June 8, 1922: 471 (B-D), June 15, 1922: 493 (D-F), June 22, 1922: 519 (F-I), June 29, 1922: 539) (I-O includes Japanese Copying, Japanese Paper and Japanese Vellum), July 6, 1922: 559 (O-R), July 13, 1922: 582 (R-Sh), July 21, 1922: 605 (Sh-Su), Aug 3, 1922: 649 (Su-Tw includes tissue).

26. In the Conservation and Art Materials Encyclopedia Online (CAMEO), a search for "goldbeater's paper" returns "goldbeater's tissue," defined as "a thin, clear, tissue paper interleaved with gold plates for the production of gold leaf. Goldbeater's *paper* [emphasis added] has a hard surface that is free from lint. The self-supporting tissue can be used to pickup and transfer each gold leaf." While the authors did not encounter the term "goldbeater's tissue" in our survey of early translucent mending materials (goldbeater's *skin* is found in the Bodleian list), the term "goldbeater's paper" appears in Roy Perkinson's 2006 edited translation of Max Schweidler's 1938 *The Restoration of Engravings, Drawings and Books*, page 157, wherein Schweidler recommends "extremely thin goldbeater's paper" for the repair of tears in book leaves that occur within or close to printed text (Schweidler 1938). Later resources in English revert to "goldbeater's tissue" as their entry in their list of defined terms. Roberts and Etherington's reference for their entry "goldbeater's tissue" is the 1965 edition of the *American Pulp and Paper Association Dictionary of Paper* (Roberts and Etherington 1982).

27. Genta Yoshi's award history for paper manufacture as recorded in his 1890 diary entry includes the following amongst the nine wins he amassed before 1890—Second National (Japanese) Industrial Exhibition of 1881: achievement award for copy paper; Kochi Prefectural Exhibition of 1884: first prize for Tengujo; World's Industrial and Cotton Centennial Exposition of 1884/5, New Orleans: first prize for blotting paper; Shikoku Rengo Kyoshinkai of 1886, Tokushima Prefecture: first prize for copy paper. The diary entries have recently been serialised on Facebook and translated to English by Japanese paper researcher Professor Yayoi Murakami (Murakami July 6th 2023). Thanks to Kayoko Moriki-Ichinomyia for introducing the authors to this resource about Japanese papers from the Meiji period.

28. Regarding late twentieth/early twenty-first century copy paper, see for example (Martínez et al. 2023).

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