

CAMBRIDGE COLLEGES' CONSERVATION CONSORTIUM
Conservation Report for the Whipple Library

Store 95.50

**Apian, Peter, 1495-1552, *Cosmographia, sive, Descriptio vniversi orbis*
(Antverpiae : Typis Joan. Withagii, 1584)**

Early printed book in its original binding of quarter blind-tooled alum-tawed skin with green recycled manuscript parchment sides.



Condition on Receipt:

The binding on this volume is still in one piece and in a functioning state, but the upper joint is splitting and at least two of the slips are broken. The fore-edge corners of the boards have suffered from a considerable amount of wear and are smashed open and delaminating. The textblock would benefit from thorough cleaning to remove surface dirt and old mould spores, and a couple of the volvelles need repair to reattach the various moveable elements to the support leaves.

Conservation Treatment:

The textblock was cleaned throughout using a soft brush and a vulcanised rubber smoke-sponge to remove loose surface dirt and old mould spores. The broken volvelles were then reattached to their support leaves using soft linen thread secured under the original paper cover patches on the back of the support leaves. The

damaged corners of the boards were then consolidated with purified wheat-starch paste and missing material was built up with layers of Japanese handmade paper. When thoroughly dry, the repairs were trimmed to size and covered with a final layer of Japanese handmade paper to prevent the layers from delaminating again. The alum-tawed skin along each side of the split in the front joint was then carefully lifted with a scalpel and strips of aero-linen were glued in to reinforce the joint. The alum-tawed skin was then put back down with a mixture of paste and glue, and the splits were covered with narrow strips of Japanese handmade paper to prevent the edges lifting during use. The repairs were toned with artists' acrylic paints and the binding was given a light protective coating of Renaissance microcrystalline wax. A made-to-measure, cloth-covered, drop-back box was made to protect the book in storage.

Below: The book after conservation.



70.5

Newton, Isaac, Sir, 1642-1727, *Philosophiæ naturalis principia mathematica* (Londini : Jussu Societatis Regiæ ac Typis Josephi Streater. Prostant venales apud Sam. Smith ..., aliosq; nonnullos bibliopolas, Anno 1687)

Bound in a laced vellum case with stiff boards



Condition on Receipt:

The vellum slips holding the case to the textblock are broken along both joints and the front board has pulled away from the book, tearing the first two endleaves.

Conservation Treatment:

The damaged front endleaves of the book were removed and repaired off the book, using Japanese handmade paper adhered with wheat-starch paste. The spine of the textblock was then lined with aero-linen, cut wide enough to form flanges on each side with which to reattach it to its binding. The repaired endleaves were then sewn back on to the book through the linen liner and a hollow back of archival Kraft paper was made on the spine. The hollow was then glued and the vellum case was drawn around the book and bandaged up to dry. When the spine was dry, the endpapers were lifted along the joints to allow the flanges of aero-linen to be put down. The joints were then covered with Japanese handmade paper, and a made-to-measure, cloth-covered, drop-back box was made to protect the book in storage.

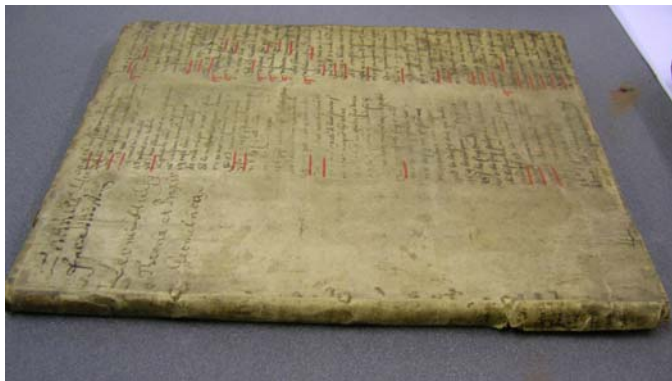
Below: The book after conservation.



CR 8.46

Hulsius, Levinus, d. 1606, *Theoria et praxis quadrantis geometrici & c.*
(Noribergae : typis Gerlachianis, sumptibus Cornelii de Iudaeis, 1594)

Early printed book bound in a limp vellum wrapper made from a manuscript leaf



Condition on Receipt:

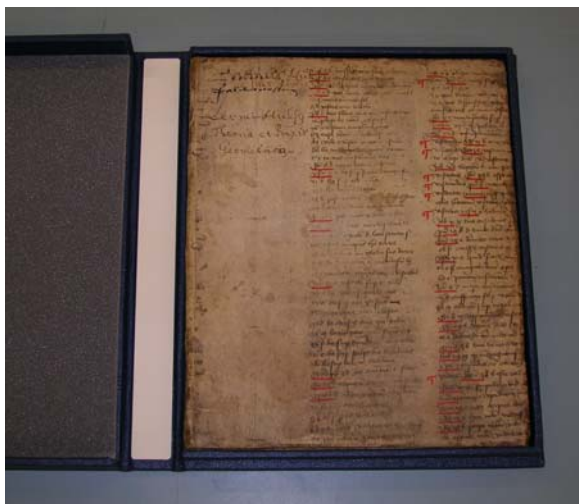
This thin book is rather limp and liable to become distorted if not properly supported on the shelf. The spine is also fragile as the parchment is splitting from the tail end. Although the textblock is in fairly good condition, the fold-out plate needs a little repair to the edge damage.

Conservation Treatment:

The fold-out plate was repaired with Japanese handmade paper adhered with wheat-starch paste, and the heavy repair strip on the title page was removed with a poultice of Sodium Carboxy Methyl Cellulose (SCMC) in purified water before the leaf was

re-repaired with Japanese handmade paper toned with artists' acrylic paint. A new flyleaf of Barcham-Green handmade paper was then guarded in to the front of the book before the damage to the binding was repaired with Japanese handmade paper, again toned with acrylics and adhered with paste. A cloth-covered box was made to protect the book in storage.

Below: The book after conservation.



CR 11.3

Plat, Hugh, Sir, 1552-1611?, *The jewel house of art and nature : containing divers rare and profitable inventions, together with sundry new experiments in the art of husbandry. With divers chymical conclusions concerning the art of distillation, and the rare practises and uses thereof Faithfully and familiarly set down , according to the authours own experience.*

(London : Printed by Bernard Alsop and are to be sold at his house .., 1653)

Quarter tightback calfskin binding sewn on four raised supports; marbled paper sides



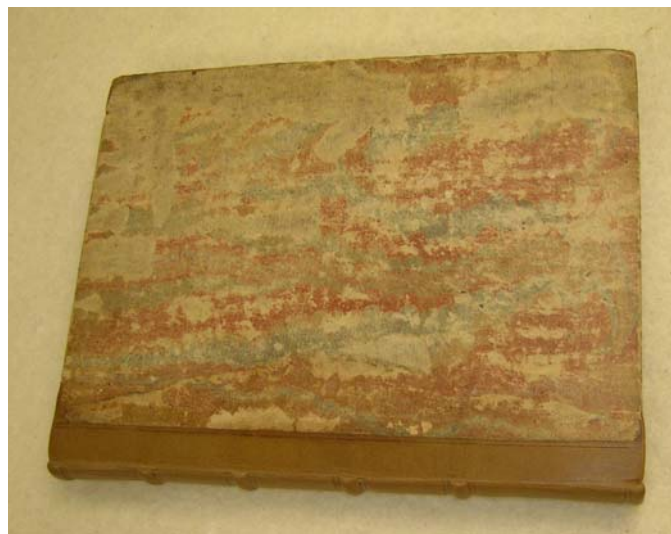
Condition on Receipt:

The front board of this book is detached and the foredge corners of both boards are bumped and delaminating.

Conservation Treatment:

The original calfskin of this binding was too degraded to be able to save for reuse, so the bulk of the material was carefully scraped from the spine before the adhesive deposits were cleaned off with a poultice of SCMC. The damaged corners of the boards were consolidated with paste and left to dry hard, before the boards were reattached to the book with linen braids glued over the original raised bands. The spine was then lined with Japanese handmade paper and Barcham-Green handmade paper, before the book was rebacked with archival calfskin over compensation pieces of heritage card glued to the boards to make the new leather flush with the original sides. The new spine was tooled with blind lines and new internal joints of Japanese handmade paper were pasted down before the binding was given a light protective coating of Renaissance microcrystalline wax. A phase box of archival folding boxboard was provided to protect the book in storage.

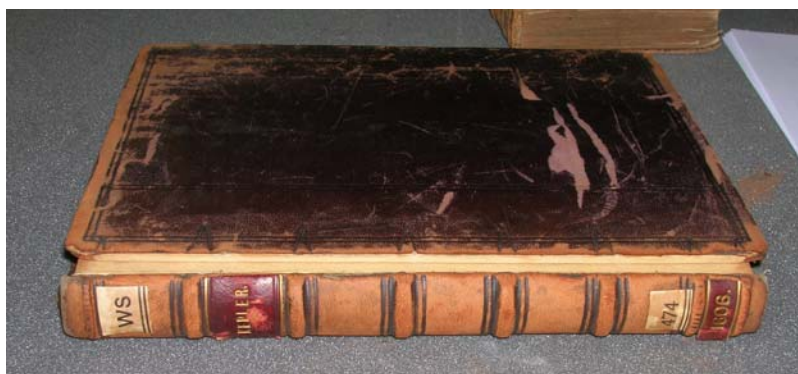
Below: The book after conservation.



Store 20.5

Kepler, Johannes, 1571-1630, *De stella nova in pede Serpentarii* (Pragae : ex officina calcographica Pauli Sessii, Anno 1606)

Seventeenth-century printed book in a nineteenth-century full sheepskin hollow-backed binding



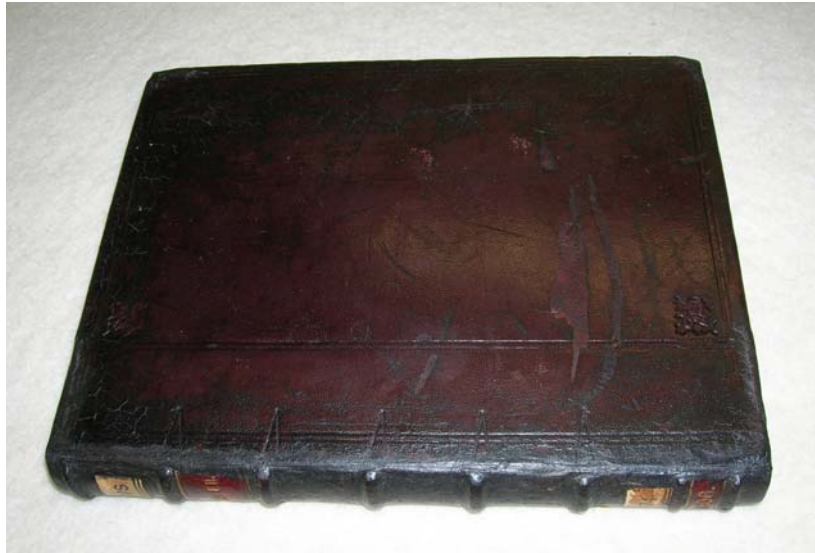
Condition on Receipt:

Both boards have become detached and the sheepskin covering is quite rubbed and scuffed. The fore-edge corners of the boards are bumped and the textblock would benefit from thorough cleaning.

Conservation Treatment:

The textblock of this book was very soiled with surface dirt, particularly at the head, so was thoroughly dry-cleaned using a soft brush and a vulcanised rubber smoke-sponge. Small paper repairs were then carried out as necessary to close tears in a few leaves, using Japanese handmade paper adhered with wheat-starch paste. Old, heavy repairs were also removed with a poultice of SCMC and replaced with more sympathetic Japanese handmade paper. The heavy, inflexible spine-linings and animal glue layers were then removed with poultices of SCMC and the corners of the boards were consolidated with paste and Japanese handmade paper. When the spine was clean it was lined with Japanese handmade paper before a new hollow back of archival Kraft paper was installed. The leather on the boards was then lifted along the joints to allow the book to be rebacked with aero-linen. The linings on the original spine-piece were then carefully removed with a scalpel and the leather was glued back in place on the new spine. Losses to the leather at the head and tail caps and along the joints were then covered with narrow strips of Japanese handmade paper, and the whole binding was coated with Klucel G in Industrial Methylated Spirits to consolidate the degraded leather. The repairs were toned with artists' acrylic paint and the binding was furbished with Renaissance microcrystalline wax. An archival phase box was provided to protect the book in storage.

Below: The book after conservation.



CR 9.21

Leybourn, William, 1626-1716, *Leybourn's Dialling improv'd : or, the whole art perform'd, I. geometrically ... II. arithmetically ... The third edition / corrected and improv'd by Charles Leadbetter.* (Published: London : Printed by H. Parker, for A. Bettesworth ..., 1728)

Printed book sewn on four raised supports and covered in full tanned sheepskin



Condition on Receipt:

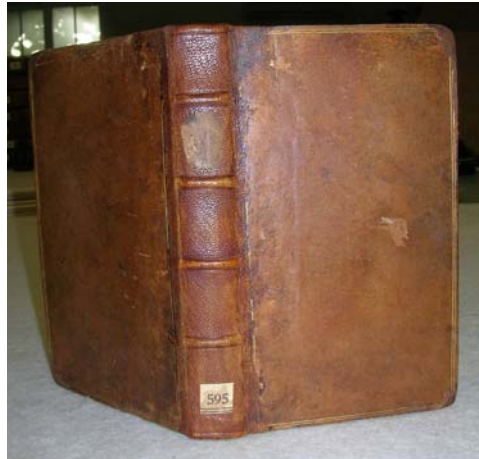
The front board of this book is detached and the fore-edge corners of both boards are badly worn. The book contains numerous fold-out plates, two of which are protruding beyond the textblock and have consequently become dirt-stained and torn.

Conservation Treatment:

The textblock was cleaned with a soft brush to remove loose surface dirt before paper repairs were carried out using Japanese handmade *Tengujo* adhered with wheat-starch paste. The leather on the boards was then consolidated with Klucel G and the corners were repaired with paste and Japanese handmade paper. Although every effort was made to save the original spine covering during lifting, the leather was too thin and degraded to save. The labels were therefore set aside for reuse on the new spine and

the back of the book was cleaned of glue deposits using a poultice of SCMC. The boards were reattached with linen braids glued over the original raised bands, the spine was lined with Japanese paper and Barcham-Green handmade paper, and the volume was rebacked with tanned goatskin, toned with Sellaset leather dies. When the new spine was dry, blind lines were tooled along the bands and the paper labels were pasted back into position. The repairs to the rest of the binding were toned with artists' acrylic paint, the binding was furbished with Renaissance microcrystalline wax, and an archival phase box was provided to protect the book in storage.

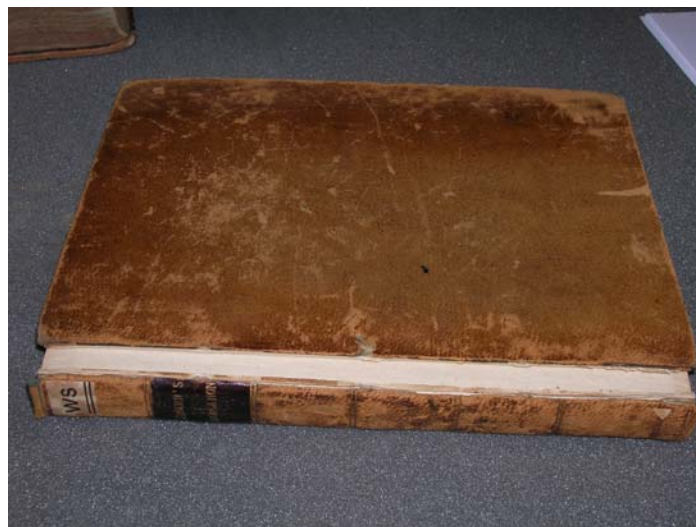
Below: The book after conservation.



Store 18.15

Leybourn, William, 1626-1716, *Panorganon : or, A universal instrument, performing all such conclusions geometrical and astronomical as are usually wrought by the globes, spheres, sectors, quadrants, planispheres...* (London : Printed for William Birch ..., 1672)

Early nineteenth-century tightback tanned sheepskin binding sewn on recessed cords



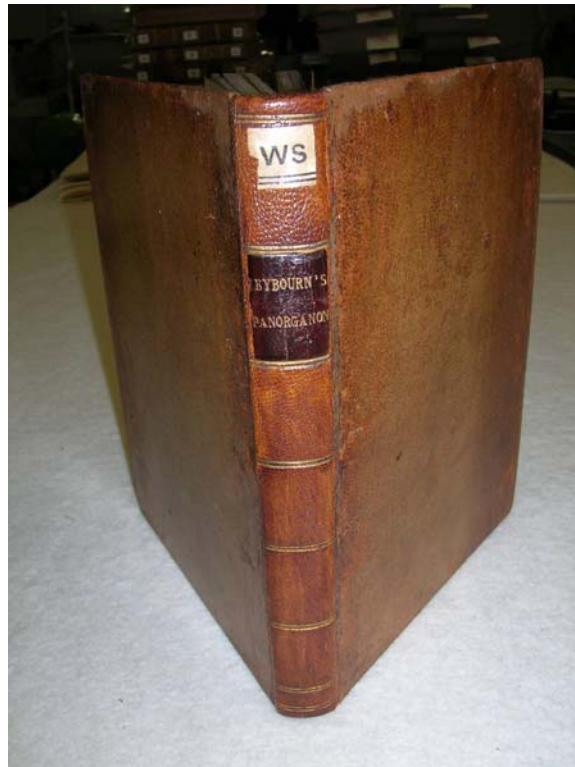
Condition on Receipt:

The upper board is detached, the lower joint is split, and the fore-edge corners of the boards are bumped and worn.

Conservation Treatment:

This book had the same treatment as CR 9.21. Once again, the original spine was too thin and degraded to survive lifting, but the labels were saved for reuse on the new spine, which was tooled with double gold lines to match the pattern of the original.

Below: The book after conservation.

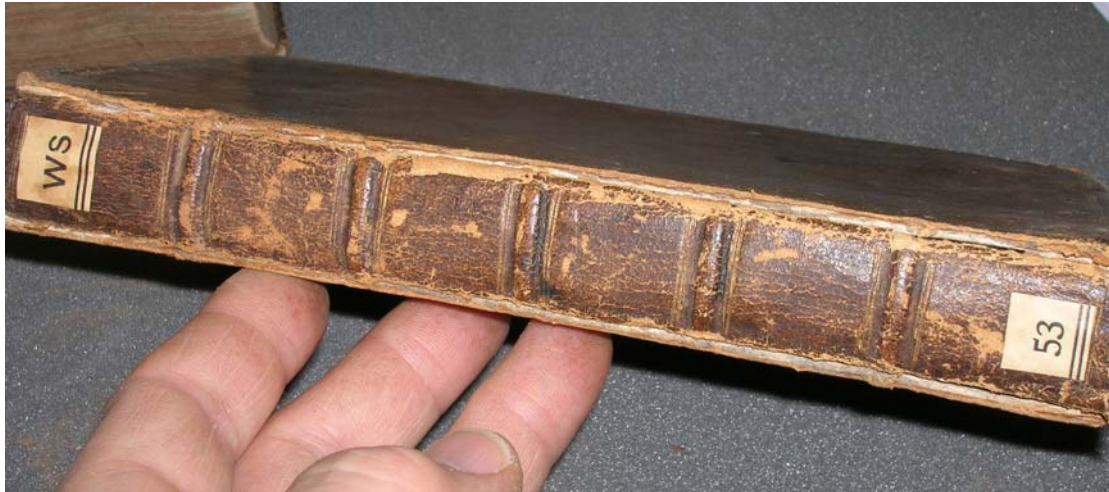


CR 9.12

Leadbetter, Charles, fl. 1728. *Mechanick dialling : or, The new art of shadows freed from the many obscurities, superfluities and errors of former writers upon this subject ..*

(London : Printed for E. Wicksteed .., 1756)

**Eighteenth/early nineteenth-century full tanned sheepskin tightback binding
sewn on five raised supports**



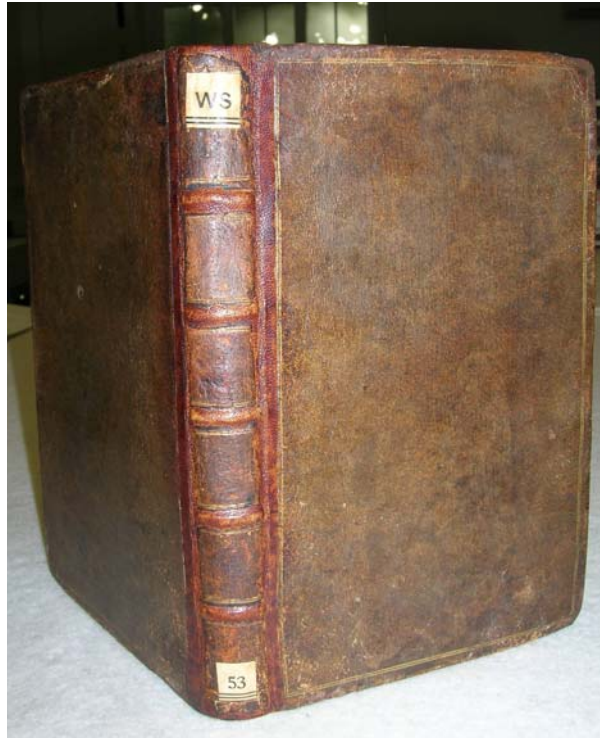
Condition on Receipt:

Both joints of this book are broken and the board attachment is extremely weak. The foredge corners of the boards are bumped and worn and the first free endpaper is missing. There are some old repairs to the textblock which would be better renewed and some leaves have tattered edges which need supporting.

Conservation Treatment:

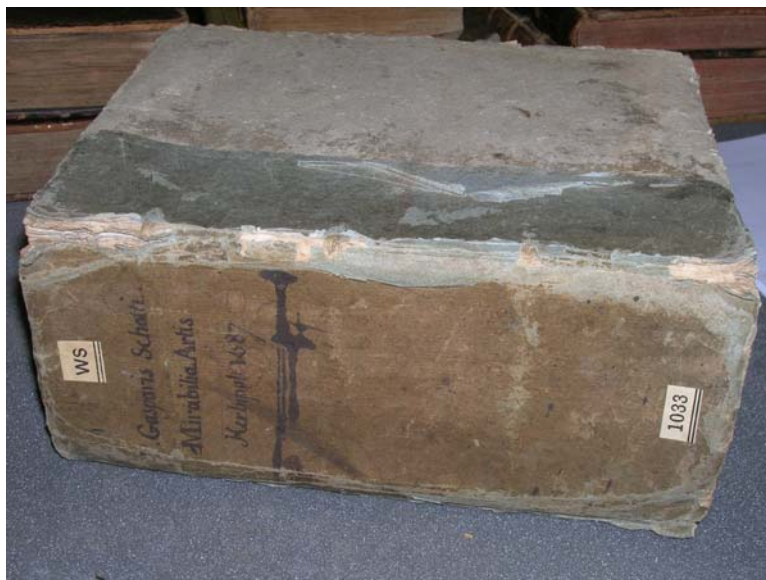
This book had similar treatment to CR 9.21 and Store 18.15, but the leather on the spine was in better condition than with the previous two volumes and was able to be lifted successfully in panels, which were saved and pasted down on the new tanned goatskin spine. A new front fly-leaf of Barcham-Green handmade paper was also guarded in place before the front board was reattached. This binding did not require consolidation with Klucel G, but was given a light protective coating of Renaissance microcrystalline wax when the repairs had been toned.

Below: The book after conservation.



Store 37.13-14

Schott, Gaspar, 1608-1666. *Technica curiosa : sive, Mirabilia artis libris xii. comprehensa* ([Herbipoli] : Sumptibus Wolfgangi Mauriti Endteri, excudebat Jobus Hertz Typographus Herbipol., 1687) – A very thick, heavy seventeenth-century textblock in boards with a later (? eighteenth-century) paper spine



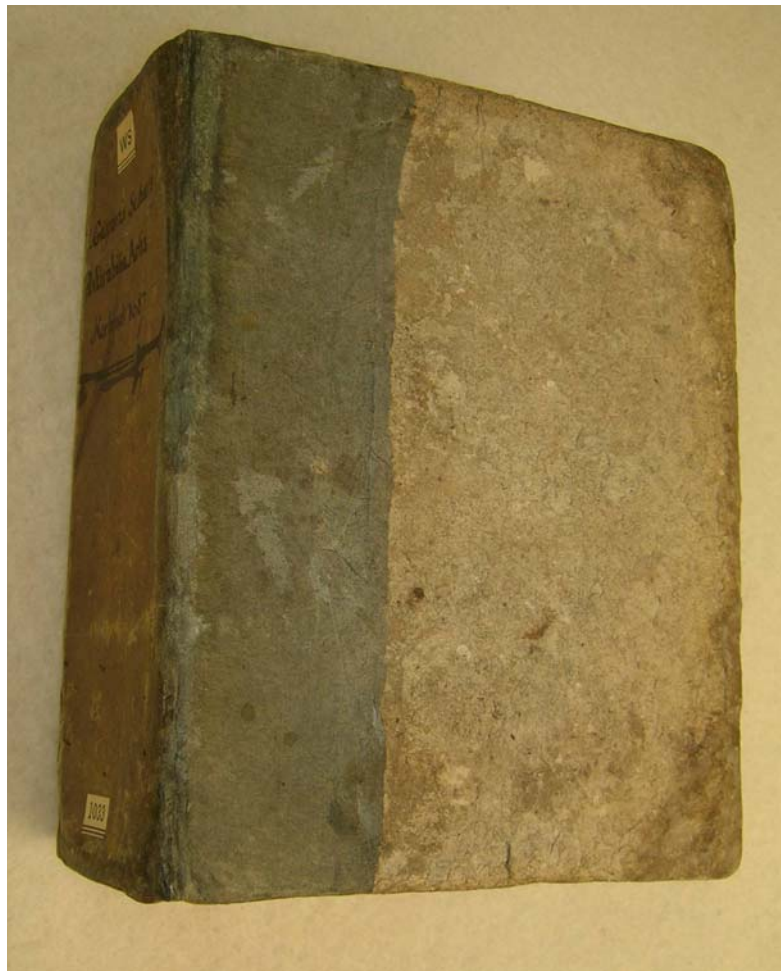
Condition on Receipt:

The edges and foredge corners of the boards of this thick volume have suffered extensive wear and need to be consolidated. The joints are also beginning to split.

Conservation Treatment:

Damaged folding plates in this book had been badly folded in the past, leaving them protruding from the binding. Affected plates were therefore repaired with Japanese handmade *Tengujo* paper adhered with wheat-starch paste, and the plates were carefully refolded so that they are protected properly by the rest of the textblock. Dog-eared leaves were flattened using a warm tacking iron. New internal joints of Japanese handmade paper were also pasted in place at both ends of the book before the external joints were repaired with the same material. Tattered and peeling elements of the binding were also pasted back down and the damaged edges and corners of the boards were strengthened and reconstructed with layers of Japanese and Western handmade papers, adhered with wheat-starch paste. The fragile, frayed ends of the spine were consolidated with paste and covered with narrow strips of Japanese handmade paper as well, to prevent further losses. The repairs were toned with artists' acrylic paint and an archival phase box was provided to protect the book in storage.

Below: The book after conservation.



Store 37.14 – Companion volume to the previous item, but bound full leather



Condition on Receipt:

This book is in rather poorer condition than its companion volume. Not only are both joints split, but the endbands, worked on strips of cloth, are coming away from the textblock and the boards themselves are delaminating. The foreedge corners of the boards are badly bumped and worn. There are some old repairs to the textblock which would be better replaced with more sympathetic materials and a fold-out plate has edge damage.

Conservation Treatment:

The delaminated board was pasted together again and left under a heavy weight to dry. The degraded and friable leather was then consolidated with Klucel G in IMS

and the damage to the corners and edges of the boards was consolidated and repaired with paste and Japanese handmade paper. Lighter-weight repair paper was used to stabilise a particularly vulnerable area in the middle of the spine, and the endbands were supported with strips of Japanese handmade paper inserted along the head and tail of the spine. The joints were also reinforced with the same paper, again adhered with paste. All the repairs were toned with artists' acrylic paint and a phase box was provided to protect the book in storage.

Below: The book after conservation.



CR 11.35-6

Schott, Gaspar, 1608-1666. *Organum mathematicum libris IX* (Herbipoli : sumptibus Johannis Andreae Endteri, & Wolfgangi jun. hæredum, excudebat Jobus Hertz, 1668)

– Two early printed books in their original tanned bindings, sewn on six raised supports and with gold-tooled spines





Condition on Receipt:

Both volumes are in a similar condition: the endbands are broken and becoming detached from the books and the leather covering material is chemically degraded, weak and very rubbed. The edges and fore-edge corners of the boards are badly worn and there are losses to the leather in these areas, as well as on the spines, where there is clear evidence of woodworm attack. Both textblocks are soiled with surface dirt and the plates are damaged along the edges. Two of the plates in CR 11.35 have been reattached in the past with very stiff guards which would be better replaced with new guards of flexible Japanese handmade paper to prevent further damage when the books are read.

Conservation Treatment:

Japanese handmade *Tengujo* was used to prevent tears in damaged leaves becoming worse, and the bindings were consolidated with Klucel G. The corners and edges of the boards were repaired with wheat-starch paste and Japanese handmade paper, and the internal joints were reinforced with the same materials. The repairs were toned with artists' acrylic paints. NOTE: no attempt was made to infill losses on the spine as these repairs were less urgently needed to protect the book from wear than those on the edges and corners of the boards, added to which, infills will only make future treatment more difficult. Phase boxes have been provided for both books.

Below: The books after conservation.

