

# A standard treatment with a few curly bits

## Conservation of a 16th-century herbal

**KATRINA BEN**

### **Abstract**

Otto Brunfels' 1532 *Herbarum vivae eicones* is of importance not only because of its beautiful botanical woodcuts by Hans Weiditz, but also as the first printed herbal with illustrations drawn from live specimens.

The copy in the State Library of Victoria's Rare Book Collection had been trimmed, re sewn and rebound in an economical fashion in the 19th century. In 2000 a decision was made to conserve it because the sewing thread was breaking down and the text block was splitting. Due to the special nature of the book, it was in demand for both seminars and exhibitions. However in its unstable condition the book was at risk of further damage.

At the outset treatment looked straightforward: disbind, re sew and leather reback. However it became clear as treatment commenced that following a conventional route would require substantial paper repair of the section folds, leading to excessive spine swell when sewing. This paper documents the treatment, and the issues that this book raised.

### *Herbarum vivae eicones*

*Herbarum vivae eicones* translates as 'living portraits of plants'. It is a herbal: a text describing plants with regard to their appearance and medical properties, including information on how to prepare and apply them. Originally published in Latin in three volumes in 1530, 1532 and 1536, it went through a number of editions and was translated into German. Its author Otto Brunfels (1489–1534) was variously a Carthusian monk, a Lutheran preacher, a schoolmaster and finally a town physician in Bern, the

city in which he died. He also wrote on theological and medical matters, but it is for the *Herbarum* that he is remembered (Sprague 1928: p81).

Brunfels drew heavily upon earlier works: the *De materia medica* of Dioscorides, Pliny's *Historia naturalis*, the writing of Arabic physicians and the works of Italian 15th- and 16th-century botanists.<sup>1</sup> He also sought information from local herbalists and "old women" knowledgeable about herbs (Sprague 1928: p82). His stated aim was to make a "concordance between the flora of Transalpine Germany and that presented by Greek and Arabic writers". He was not unusual in the fallacy that plants of different regions should be the same (Anderson 1977: pp126–7).

Whilst there is nothing unexpected in Brunfels' text, it is in the illustrations of Hans Weiditz (c.1495–c.1536) that the book makes a major break with tradition. Weiditz, a student of Dürer, created the designs and probably supervised the draughtsman and woodcutters (Anderson 1977: p121). The plant illustrations are more lifelike and naturalistic than anything printed before, right down to blemishes and broken foliage in individual plants. Figure 1 shows a typical example of the realism of these illustrations. In the 1930s a few of the original watercolours by Weiditz for this book were found in the attic of the University Botanic Institute at Bern. They show that the engravers manipulated the original watercolours a little – particularly to get tall plant pictures to fit on the page (Blunt and Stearn 1984: p63).

It appears at times that the text and the illustrations were not part of a planned programme. Illustrations of a few of the plants written up in the first volume appear in the later volumes. Occasionally there are illustrations, such as that of the Pasque flower, next to which Brunfels apologises to the reader for not having a Latin name or a medical use. The order of the plants depicted is also very haphazard.

---

1 As well as Pliny and Dioscorides, Lucius Apuleius Madaurensis (known as Apuleius Platonicus) was heavily relied upon. The Arab doctors referred to include Serapion, Mesue, Avicenna and Rhazes. The Italian botanists whose writings and commentaries on earlier works are made use of are Hermolaus Barbarus, Nicolaus Leoniceus, Marcellus Virgilius, Pandulphus Collinutius and Joannes Manardus (Sprague 1928: pp82–3).

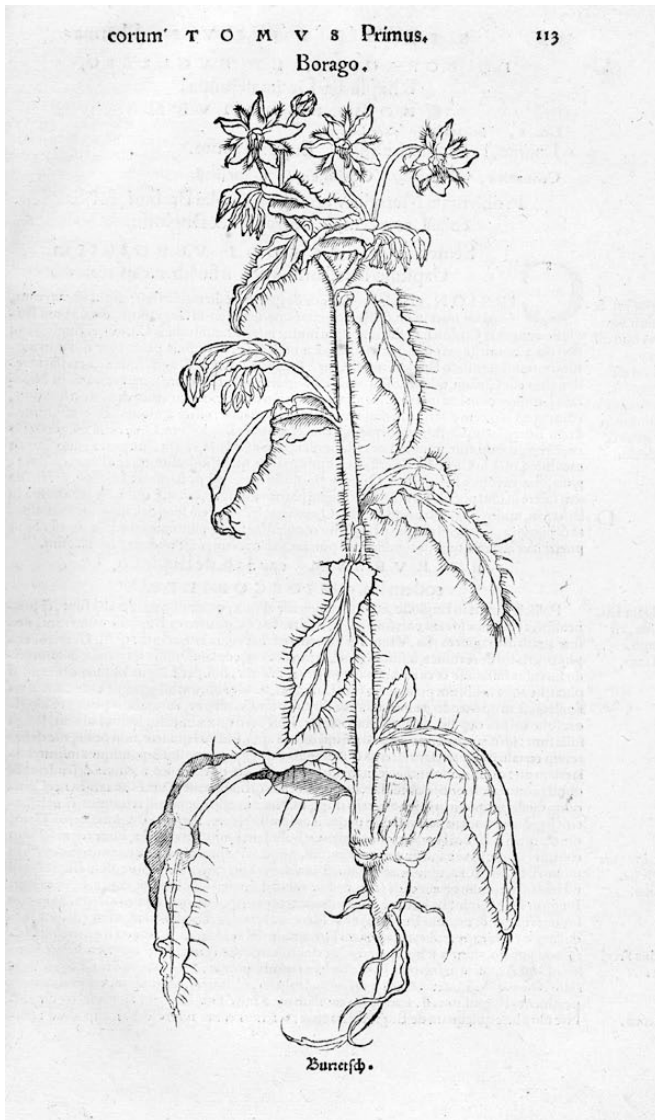


Figure 1. An illustration of the plant borago from *Herbarum vivae eicones*.

### **Background to the State Library of Victoria's copy**

The book owned by the State Library of Victoria contains, bound together, the second edition of the first volume, published in 1532, and the first edition of the second volume, from 1531. It is clear that the two volumes were separate for some time at some point; there is an increasing amount of staining and other damage at the end of the first volume that stops short suddenly at the start of volume two. Indications of the two volumes being together are the neatly handwritten amendments or corrections through both in a contemporary or near-contemporary hand, and the alignment of previous sewing holes (visible on the cleaned spine) suggesting the two volumes had been sewn together prior to the existing binding.

According to the Stock Book of the Melbourne Public Library, volume 5, *Herbarum vivae eicones* was purchased on 12 June 1886 from Baron Ferdinand von Mueller for two guineas (two pounds two shillings). Born in Germany, von Mueller was the Government Botanist of Victoria from 1853 until his death in 1896. In the Stock Book the herbal is described as being 'two volumes in one'. This, together with the State Library's accessioning marks on the endpapers, suggests the existing (possibly 19th-century) binding pre-dates its arrival at the library. On the front flyleaf is a pencil inscription: '£1.16 0'. If this was what von Mueller paid for the title, he made a profit of 7 shillings.

Mueller started the library at the Herbarium at the Melbourne Botanic Gardens. In 1865 and 1869 he sold a large portion of his library to the Herbarium. Included in those books was another copy of volumes one and two of the *Herbarum vivae eicones*. The State Library's copy may have been sold by von Mueller because it was a duplicate.

### **Importance of the book to State Library of Victoria's Rare Book Collection**

Brunfels' *Herbarum vivae eicones* is regarded as one of the key works in the State Library of Victoria's Rare Book Collection, representing the early development of herbals. The *Herbarum* was part of an exhibition called *The Art of Botanical Illustration* in August–September 1975 in the Irving Benson Hall at the State Library of Victoria (State Library of Victoria 1975). It was also employed in seminars on the history of botanical illustration run by the Library in the early 1990s. It was brought to the attention of the

State Library of Victoria's Conservation Department because its condition was deteriorating with the use it was receiving. In addition, it was slated to be included in a major exhibition, *Mirror of the World*, in the State Library's Dome Gallery. In discussion between the curator and conservation it was agreed that because of its condition, treatment was required.

### **The binding**

The book had been trimmed, resewn and rebound, probably some time between the late 18th and mid 19th century. The half leather binding was made from mottled calf with marbled paper sides in the 'Spanish' pattern – a pattern that was common in the 19th century (Wolfe 1990: p188). The boards were a soft pasteboard. There were five sewing supports of double hemp cords, three of which were attached to the boards, with the other two cut flush with the text block. The hemp cords were attached by being frayed and pasted onto the inside of the boards. The sewing was two-on with some sewing stations missed in each round. The sewing holes from a previous binding were visible but not reused in this later binding; indeed the earlier kettle-stitch holes were now very close to the head and tail edges as a result of the book being trimmed. There were holes for four sewing supports in the former binding. The endpapers were sewn and consisted of bifolium of a thick wove paper folded underneath at the hinge with the stub underneath the pastedown.<sup>2</sup>

The spine had a moderate round with a slight shoulder and no spine linings or endbands. There was a minimal amount of gold finishing on the spine. Double gold lines were tooled on either side of each band, with a floral motif gold-tooled in each panel except the title panel, second from the top, which had a label gold-tooled with 'BRUNFELSI HERBAR'. The edges of the text block were sprinkled with red.

### **The nature of the book's damage**

The binding was in poor condition with both the text block and leather spine split in several places (see Figure 2). The hemp sewing supports were the only thing that held the book in one piece. This damage could be

---

2 The description that David Pearson uses for this structure (Pearson 2005).

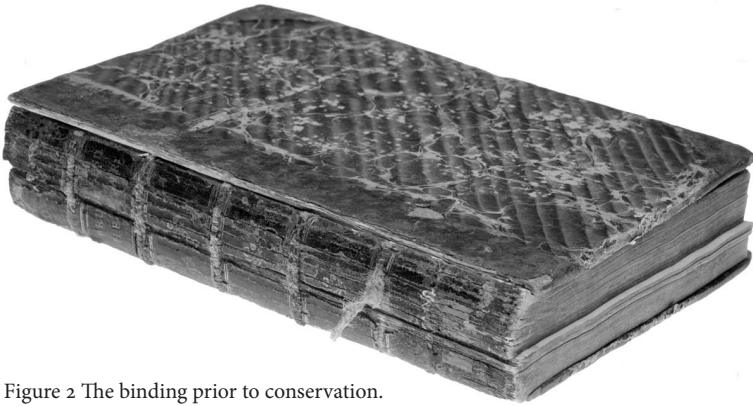


Figure 2 The binding prior to conservation.

a result of either the weak sewing thread used (the thread could easily be broken by pulling it between one's two hands), the poor-quality leather used in the rebinding, or a combination of both factors. It was clear that handling was leading to further breakdown of the book's structure. With the expected handling that the book would undergo in seminars and in the forthcoming and future exhibitions, treatment was deemed necessary.

In addition to the structural damage to the text block, the front and back boards, together with their flyleaves and a page of text block, were detached from the main volume. There were two deep gouges in the leather on the front of the board (one could imagine these being caused by a book with sharp clasps being dragged across it) and many scratches and signs of wear on both the leather and the marbled paper sides. The leather board corners were worn through to the boards, which were very soft. In addition, due to the brittle nature of the leather, sections of the spine leather at the head and tail were missing.

Apart from the sewing, the paper text block itself was in relatively good condition. There were undulations in the text block, perpendicular to and fanning out from the spine. There were stains, accretions and insect holes throughout the text block, although not on every page.

**Treatment – Text block**

From the outset it was clear the book would need a complete resewing. There was no point in just sewing together the separated sections of text block as the existing thread was so weak that further breaks would be likely. In the pre-treatment discussions it was decided to completely pull the text block and re sew from scratch. There was concern about introducing too much swell due to the number of sections, but if the sewing was done two-on (as was the existing sewing) this would control the swell.

This proposal looked somewhat doubtful once treatment commenced, as pulling the text block in the conventional manner proved to be very damaging to the spine folds of the all folios, requiring substantial paper repair. The damage whilst pulling the sections was a result of the penetration of animal glue into the original sewing holes, which had not been used when the book was re sewn and rebound. This glue was impossible to remove completely when cleaning the spine and was holding what remained of the book structure together quite effectively.

Once five sections had been pulled, treatment stopped to allow a reconsideration of the treatment plan. If the remainder of the book came apart this badly, the required paper repair would lead to a spine with too much swell. The idea of resewing the volume without pulling the remaining sections was raised and discussed with Tine Rolley, who had previously performed such a treatment successfully. The proposed treatment would involve lining the spine with Japanese tissue to reinforce it before sewing the sections through the tissue and around the cords.

At this point there was a little delay in the proceedings. Our department underwent a restructure, I was seconded into another position and then went on maternity leave, and our work area was moved. Two years later and back at the workbench part-time, I discovered that the *Herbarum* was scheduled to be displayed in the State Library's *Mirror of the World* exhibition, scheduled to open in four months, and the book was still in pieces on my shelf! I decided to continue with the plan of resewing the volume intact. However, before I could start, the volume first had to be examined and photographed; necessary prerequisites for an item to be exhibited. When the book was finally back in my hands it had broken down much further. The new breaks in the sewing and between sections

of the binding had occurred very cleanly with no paper damage. The text block was in many more than three separate pieces. Suddenly the decision to re sew the volume intact seemed absurd.

In the end the book was partially pulled into sections. Most were in blocks of two sections, there were some four-section pieces and some single-section pieces. It was decided to follow the practice of the second binder and leave the original sewing holes alone. This meant not removing the animal glue that had penetrated the original sewing holes, as this would lead to the need for more paper repairs and the aforementioned swell problem. Paper repair with thin *kōzo* Japanese tissue was only performed where necessary to allow for sewing, and to repair a few tears on the edges of the pages.

The book was re sewn two-on with two-cord linen thread on double linen cords. A blank page of Timecare Age Compatible 110 gsm paper was guarded around the first section and the last section to act as a barrier between the text block and the endpapers. In addition, a strip of Barcham Green Bodleian paper was guarded onto these sections to function as the inner joint of the binding. Use was made of previous sewing holes where possible. Some new holes were necessary because earlier sewing went through the margin rather than the centre of the section, and because some sewing stations had been skipped in the previous sewing.

The spine was then consolidated, first with wheat starch paste and then a light coat of animal glue. The book was gently rounded and backed (much of the original round returned after sewing was complete). Head and tail headbands were sewn with a single bead, using white linen thread over a linen cord core. The spine was then lined with a laminate of two layers of thin *kōzo* Japanese tissue.

### **Treatment – Binding**

The existing binding of the *Herbarum vivae eicones* was a utilitarian, economically produced means to protect the book. It hadn't held up well: the poor-quality leather had become weak and brittle and the corners were very damaged due to the softness of the pasteboard boards. There was little remarkable about the binding aesthetically. However, there is still value in preserving the elements that remain of the book's past, even



if they are not contemporary with the text.

A minimal treatment approach was decided upon, enough to restore functionality but not enough to hide the past hardships the binding had undergone. Thus the board corners were consolidated but not restored to their former shape and leather-covered glory. The deep gouges on the front board were filled in and toned, but the multitude of other scratches, scrapes and areas of wear were not disguised.

The spine treatment was problematic, the question being whether to rebind the book as a tight-back or to place a paper hollow on the spine. A hollow back would allow the brittle fragments of the original spine to be reinstated, but if these were put back on a tight-back style spine they would fracture further. A tight-back is a more structurally sound binding due to the stress of book opening being distributed across the spine and not just restricted to the either end of the hollow. A book with a hollow also can have more strain on the sewing. In addition, the existing binding was in tight-back style. In the end, the spine was given a tight-back leather spine as it was believed it would be the best option for the book's functionality. This style would also be sympathetic with the binding that was being reused. The pieces of the former leather spine were backed onto Japanese tissue with paste and stored separately in the box with the book. The boards were reattached as previously, with the new slips pasted on the inside of the boards. A new spine was made of kangaroo leather and adhered under the old leather sides, and the new guards were pasted under the old endpaper (see Figure 3). Kangaroo leather was chosen because it has good strength for weight, is relatively easy to use and has a sympathetic grain for the purpose.

When not on exhibition the book will be stored flat in a custom-made rare-book box, which will protect the less-than-perfect boards.

## Conclusion

Brunfel's *Herbarum vivae eicones* is a milestone in the history of plant illustration. The copy held by the SLV has undergone some tribulations in its path to the library; however the marks, stains, scratches and rebinding go some way towards showing that the text had an active life; it hasn't been hidden away on a shelf for the last 475 years forgotten. Now it is a

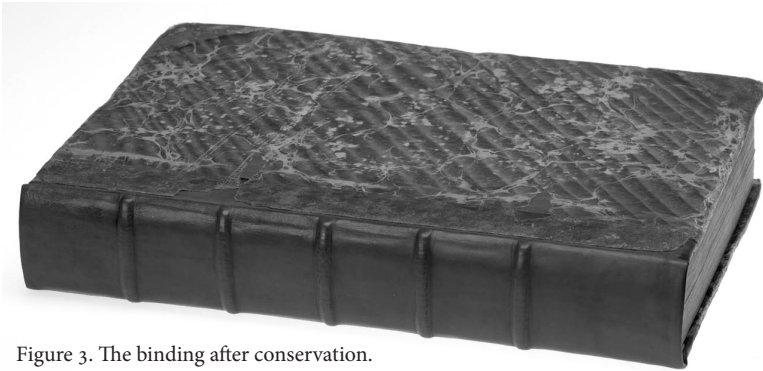


Figure 3. The binding after conservation.

functional book again. The conservation treatment enables it to be safely accessible, whilst not hiding its travels through time. The book is now structurally sound and opens easily, ready for research and exhibition.

As illustrated with this treatment, the conservation repair of books doesn't always go as intended. One can't always predict what will be found under a binding, and treatments may not progress as initially expected. Hence it is vital to keep an open mind during the treatment process and be prepared to be flexible.

### Acknowledgements

The author would like to thank Shelley Jamieson, Jean Holland, Walter Struve, Jan McDonald (State Library of Victoria), Tine Rolley (Artefact Conservation), Professor Rod Home (head of the Mueller Correspondence Project) and Helen Cohn (Royal Botanic Gardens, Melbourne).

### References

- Anderson, F. J. 1977. *An illustrated history of the herbals*. New York: Columbia University Press
- Blunt, W., and W. T. Stearn. 1994. *The art of botanical illustration*. (New revised and enlarged ed. / revised by W. T. Stearn) Woodbridge, England: Antique Collector's Club in association with The Royal Botanic Gardens, Kew
- Pearson, D. 2005. *English bookbinding styles 1450–1800: A handbook*. London: The British Library and Oak Knoll Press

- Sprague, T. A. 1928. The herbal of Otto Brunfels. *The Journal of the Linnaean Society, Botany* 48: 79–124
- State Library of Victoria. 1975. *The art of botanical illustration: An exhibition of fine books from the botany collection of the State Library of Victoria, Irving Benson Hall, State Library of Victoria, August and September 1975.* Melbourne: Library Council of Victoria
- Stock Book of the Melbourne Public Library, Volume 5, 1886. Manuscript Collection, State Library of Victoria
- Wolfe, R. J. 1990. *Marbled paper: Its history, techniques, and patterns: With special references to the relationship of marbling to bookbinding in Europe and the Western world.* Philadelphia: University of Pennsylvania Press

### Suppliers

*Timecare Age Compatible Toned Laid 110 gsm*

Conservation by Design

Timecare Works

5 Singer Way

Woburn Road Industrial Estate

Kempston

Bedford, MK42 7AW

United Kingdom

*Barcham Green Bodleian paper* – no longer available

*Pearl Animal Glue*

J. Hewitt & Sons Ltd.

Kinauld Leather Works

Currie

Edinburgh EH14 5RS

United Kingdom

### Author biography

*Katrina Ben* is a Book Conservator at the State Library of Victoria. She has a BA (Hons) in Classical Studies with Philosophy from the University of Melbourne. Initially training in book conservation in the workplace at the State Library of Victoria, she furthered her study at the Centro del bel Libro in Ascona, Switzerland in 1991.

Book Conservator  
State Library of Victoria  
328 Swanston Street  
Melbourne VIC 3000  
Australia  
Tel: +61 3 8664 7331  
kben@slv.vic.gov.au