

## Case History: The Conserving of a Chained Binding

By Scott Kellar\*

The following paper is a sequential description of the particular set of treatments chosen for the conservation of a latin Bible printed in 1501, located in the Special Collections at Northwestern University Library. Many of the commonly understood forwarding techniques have been assumed or abbreviated- emphasis has been placed on points of interest as perceived by the writer. The variables within the thought and discussion which went into the decision making process by conservator and curator would be difficult to retrace, and will not fall within the main scope of this paper. It is hoped that useful possible treatments will be described which will be of value to the book conservator as he or she approaches the very individual items that require conservation treatment.

This volume is one of a seven volume set (folio) of the latin Bible which was printed between 1497 and 1504 for Anthony Koberger. The text is accompanied by an extensive commentary by Cardinal Hugo, a 13th C. scholar. This third volume, containing the Prophets, was printed by John Amerbach of Basel in 1501.



Biblia Latina. Basel, 1501.

Fig. 1

The binding was of thick alum-tawed pigskin over oak boards with ten brass bosses and two clasps (one missing). The book had been sewn over three double hemp cords, each 3-ply, z-twist. The folio gatherings were put together in alternating six and eight leaf signatures. The spine folds were marked with knife cuts for sewing, with the four resulting panels being of equal length.

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The sewing was all along, or one-on, without packing or linking between signatures at the cords. The kettlestitches were 1/4 inch from the ends. The extended cords laced through single tunnels which travelled from the inside edge to the outside, then back to the inside and pegged. A slight chamfer had been made at the head and tail of the spine to accommodate the endbands. (The boards of this binding included small squares; together with the chamfering suggestive of binding practices just moving away from flush board binding). The endbands were pieces of cord wrapped with thin alum-tawed pigskin and pasted to the head and tail- no sewn attachment. The extended ends of the cord were, nevertheless, laced into the boards and pegged. An iron chain was riveted to the top of the rear board, probably at later date (to all appearances the binding was not designed with the chain in mind). It was apparent that the metal components had caused damage in two instances. The corner bosses near the joint had broken the cover at the head and tail (fig.1) and the chain attachment had damaged and stained several pages of the text where it was in direct contact. The pigskin cover had become weak, inflexible and partially broken at the joint. The oak boards (exposed on the inside) had stained the first and last leaves of the text, except where the vellum joints (mss fragments) were attached. The oak boards were so completely riddled by termites that only finger pressure was necessary to break through the surface. It was interesting to note that the termites (no longer present) had done very little damage to the paper and vellum components of the book.

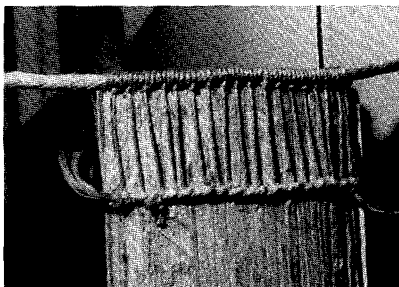


Fig. 2

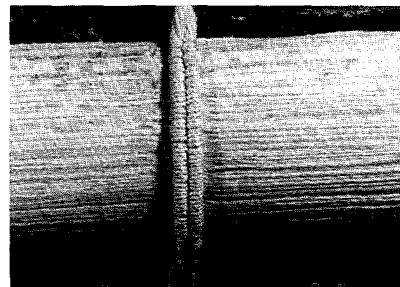


Fig. 3

After examination the book was collated and documented by photograph and in writing (documentation continued also during and after completion of the treatment). The decision was made to remove the cover and store it separately, with the clasp parts and the chain. The text was to be rebound in a manner compatible with the original binding, using the brass bosses on the new binding. After the cover was removed the exposed text block revealed a very interesting vellum joint technique which will be

described a little later and summarized on the final page. The text paper was somewhat stained and had a pH of 6. After disbinding the leaves were washed and then deacidified in a calcium hydroxide solution. Then followed drying and pressing and afterwards mending as necessary. The signatures were sewn (packed sewing) onto three double raised cords, using the original sewing stations (fig.2). Hooked folios of a/f handmade paper were added as endpapers, and sewn on with the primary sewing. Endbands were then sewn on using the same unbleached linen thread (18/3) used for the primary structure. Chris Clarkson's medieval endband technique (with the bead in the back) was used for these (fig.3). The spine was then consolidated with starch paste in the job backer, after a natural backing had been formed. After drying, a japanese tissue lining was applied with starch paste, followed by a lining of handmade paper. The vellum joint construction of the original binding was used, and is illustrated in figures 4-7.

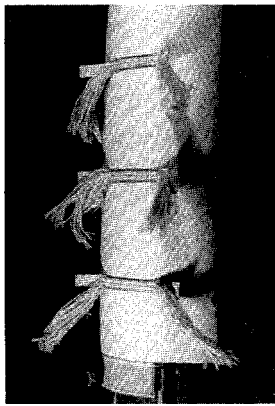


Fig. 4

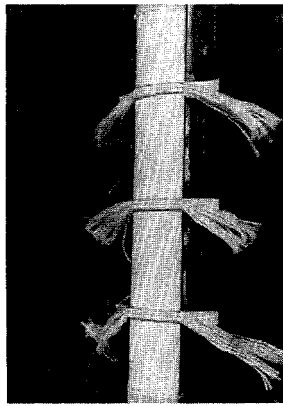


Fig. 5

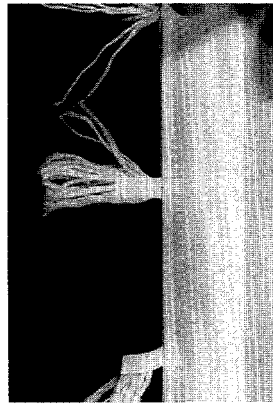


Fig. 6

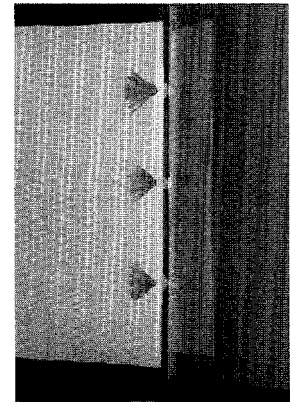


Fig. 7

After softening with paste, the vellum liner was adhered with paste mixed with P.V.A. directly to the spine, being fitted over the raised bands, and then sewn onto the primary sewing structure at the hinge (see final page for a detailed description). Acid-free laminated rag boards were shaped (the inner board edge being beveled to fit the sloped shoulder), lined and laced onto the book. Undyed chrome retanned goatskin was used as a covering material, adhered with starch paste and tied up around the bands. The internal vellum joints were later adhered to the boards with P.V.A., the book block being held at a 90 degree angle to the boards until the adhesive had set. The inside of the boards were trimmed out and lined. After drying the outer leaf of the endsheets were pasted down to the boards. The cover was then blind tooled to suggest the style used on the original binding. The bosses were then attached with brass pins at their original locations. The bosses which were positioned at the top and bottom inside board corners each had a small amount of metal removed where the boss extended a small flange into the outer joint. (When the original boards were opened the flanges 'bit'

into the joint area and eventually broke through the leather-fig.1). A small modification of the bosses at that point now allows the boards of the new binding to open freely without damage to the joint. A drop-spine box with felt pads was then constructed (fig.8) for the completed rebinding (fig.9).

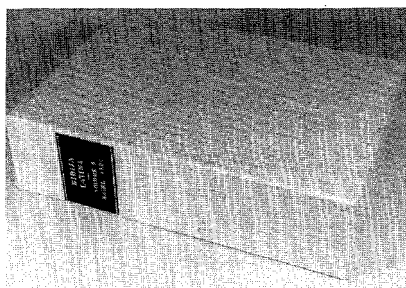


Fig. 8

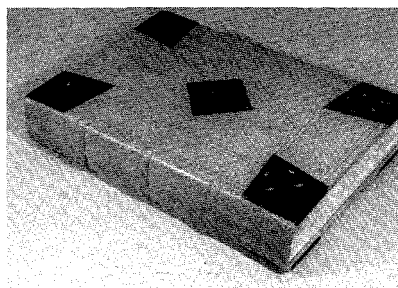


Fig. 9

To further experiment with the unique vellum joint structure, a model was constructed with the joint, including slight variations in the book format (using four double raised cords and heavier paper). In both cases the boards open easily with little stress to the first and last signatures of the book. Although this joint structure warrants, and deserves, more investigation, it was interesting to observe in the original binding that of all the binding components only the text leaves and this joint structure remained essentially sound to the present day. Deterioration of the adhesive, sewing supports, covering material and wooden boards were the primary structural reasons that conservation treatment was necessary.

### Extended Vellum Back-lining with Protected Sewn Attachment

Basic design found on a latin Bible ( Biblia v.3; Basel, 1501) printed by John Amerbach for Anthony Koberger. After the text was sewn over double raised cords and the spine shaped and consolidated, vellum was applied as a back-lining (1.) that extended about an inch onto the sides of the textblock. Slots were cut in the vellum to allow space for the raised cords. The displaced strips of vellum (2.) were not removed, but folded back at the hinge. Independent sewing (3.) was introduced from inside the end gathering at the kettlestitch-- the thread passing to the outside of the vellum lining, along the hinge, through the vellum fold created by the folded back strip, around the double cords (linking with the primary sewing), and back through the piercing and along to the next sewing station. At the end of the hinge the thread went through the vellum back into the center of the end gathering and was tied off with the primary sewing. The folded back strips were then adhered down over the sewing onto the hinge. After the boards were laced on and the book covered, the hinges were adhered to the boards.

This simple design, and modifications of it, provides the option of using a stout joint reinforcement material, such as vellum, for the heavier folio size structures: A. Without the awkward and often damaging 'hooking' around the endsheet and/or end-gatherings, B. With a hidden sewing attachment that is protected at the sewing stations, C. With a continuous cover-to-text attachment along the inner joints (because of the one-piece extended back-lining format), D. with additional spine reinforcement and spine shape retention provided by the back-lining.

