## The Making of the Nuremberg Chronicle And Its Restoration 500 Years Later

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BOOK RESTORER is always delighted to view and handle early printed books, especially those from the incunabula period, that period that forms the cradle of moveable type printing, from c. 1448 to December 31, 1500, a somewhat artificial period. Books printed during that period have come to be called incunabula, and by librarians, incunables.

My usual work for special collections across Canada is the re-attachment of boards. I do this simply by inserting a cloth hinge and attaching the board to this hinge. With this technique which I learned years ago at the Newberry Library in Chicago, the spine leather is left intact. I have examined books repaired in this manner 40 years ago which are still in excellent shape. The beauty of this type of restoration is that the original binding is left almost completely intact.

This type of rehinging is rather mundane work. So it was with considerable excitement that I approached a more challenging commission in the spring of 1994. I accepted with the deepest of pleasure a commission from the Bruce Peel Special Collections Library of the University of Alberta to restore their copy of the Latin edition of Hartmann Schedel's Liber Chronicarum (Nuremberg Chronicle) printed in 1493 in Nuremberg by the eminent printer, Anton Koberger. It was illustrated with woodcuts executed by Michael Wolegemut and Wilhelm Pleydenwurff --- where there is striking visual evidence of the involvement of Albretch Dürer who was an apprentice in the Wolgemut Art Workshop in Nuremberg during the production of the *Chronicle* woodcuts. In all, this first great "picture book" contains 1809 woodcut illustrations, printed from 645 blocks. One does not turn many pages before becoming aware that some of the same woodcuts were observed a few leaves previously. The woodblocks were made a standard thickness, which was the height of the type, so that everything could be locked up together. The fifteenth century artists who drew the designs for the woodcuts did not do any of the cutting of the blocks. The actual cutting was done by skilled artisans, known as formschneider. Anton Koberger, the printer, was Dürer's godfather. Two wealthy burghers, Scghreyer and Kamermaister, merchants by profession and humanists by inclination, financed the project. So successful was their project that their Chronicle still brings fame to its makers and to the city of Nuremberg five centuries later. It was a unique partnership coupled with the new art of printing, invented

only fifty years previously. The scope of the book was sweeping, chronicling all of history, from the Creation of the world to the date of publication. This was the golden age of Nuremberg at a time when it was welcoming the "New Learning". As well, it was the first picture book for the bourgeoisie with its 1809 woodcuts.

One would surmise that the *Chronicle* would be printed on paper from the Ulman Stromer paper mill, the first paper mill in Germany, established by Stromer in 1390. But this was not the case. (The buildings in the lower right corner of the *Chronicle* double-spread view of Nuremberg, Folium C, are those of the Stromer mill.) The vast quantity of paper required for the *Chronicle*, about 400,000 sheets in all, could probably not be supplied by one mill. Five or six watermarks appear in any copy of either edition. Koberger, the printer, is reputed to have deplored the local product and no Stromer watermark appears in the *Chronicle*. The paper, apparently, came from upper Rhine sources.

In 1974, while studying book and paper restoration at the Bayerische Staatsbibliothek, Munich, I had the opportunity on several occasions to inspect Schedel's Library housed at this state library. The provenance of this part of the Staatsbibliothek's collection can be clearly traced through Schedel's grandson selling his grandfather's library to John Jacob Fugger of Augsburg, who becoming bankrupt, sold the ample library along with his own to Duke Albrecht V of Bavaria in 1571, whose library became a part of the Munich Staatsbibliothek. The collection contains about 370 manuscripts (codices) most of which Schedel himself copied and 600 printed works. The most splendid example of Schedel's bibliomania is the hand-coloured copy of his own *Liber Chronicarum* into which are inserted many extra pages, including nine broadsides. The binding is full white pigskin, blind stamped overall with dragons rampant, floral borders, and in the centre a variation of the pine and pomegranate pattern. The signatures are sewn on double cords which are laced into the beachwood boards.

There is no attempt here to compare the Bruce Peel *Chronicle* with Schedel's personal copy. The Bruce Peel *Chronicle* is bound in full vellum and splendid in its own right. It measures 47.5 x 34.5 x 8.25 cms. Tooled simply with blind lines along all four board edges, it is embellished with a large blind stamp on the dorsal board. The bookblock edges have been dyed a light brown. The volume is sewn on six sets of

double cords. The title is inscribed on the second spine panel, *Chronicon Nurembergense*, 1493. When I received the volume at my hermitage bindery, the vellum covering was soiled, the board corners bent and scuffed. The dorsal hinge area was split in its entirety, although the cords were intact. Several smaller splits were in evidence on the back board as well. John Charles, head of the Bruce Peel Special Collections Library, University of Alberta, specifically requested that I repair these splits, and as well mend several of the leaves which had been weakened and partially lost by mould/water damage sometime in the past. Otherwise the leaves (folios: each leaf had a folio number) were in surprisingly good shape, only slightly acidic. Amazingly permanent and durable after 500 hundred years.

Before mending the hinge areas and folio corners, I wrote up the usual condition/treatment report, which included before photography, testing for ink and colour solubility, measuring the pH of the paper, etc. All colours were insoluble. The pH was in area of 6, only slightly acidic.

My rule of thumb when working on such a precious document is "How little needs to be done, not how much." My main objective was to repair the vellum hinge areas. I prepared two vellum strips each 3/4" wide and the length of the volume. I skived (pared) all four edges of each piece, using small pieces of freshly broken glass for this purpose. The strips when completed were less than paper thin on all four edges. I covered both sides of the strips with a thick coating of wheat starch paste and let them soak for a good hour. Meanwhile, the vellum along the hinge areas and the spine vellum closest to the hinge was lifted the same 3/4" as the prepared strips. Using a mixture of wheat starch paste and reversible adhesive (No. A-1023: Carr-McLean), I applied this to the lifted spine and board area. After an hour's time, both the new strip and the old vellum had become guite soft and malleable. At this time the front strip was put in place under the lifted vellum along with another application of adhesive. The back board hinge was treated in the same manner. Then protecting the spine with a sheet of wax paper, I proceeded to "tie up" the spine, using a length of cotton twill carpet tape, 4 cm. wide. I begin this process by inserting one end of the tape on the inside of the front board, then the tape is wrapped around the head band area of the spine and then around the fore-edge, continuing this wrapping until the endband area of the book is reached. This tape pulls the spine vellum into place and closes the gap in the hinge area. Leverage is gained as the tape is wrapped around the boards and then back onto the spine. After six hours the tape and wax paper were removed and the book was allowed to dry overnight.

The weakened fore-edge lower corners were mended using a very thin Japanese tissue on the front surface of the corners, applied with wheat starch paste. These were allowed to dry between pure unflecked felts under a slight weight. The amount of mending at any one time is limited by the number of felts in one's possession. Allowing one hour's drying time, the mending can continue throughout the day while other work is taking place. After the front surface was mended and dried I applied kozo feathered mends (to approximate the thickness of the folios) to the back of each corner being mended. When completely dry, the corners were trimmed to the appropriate size.

The bent and scuffed board corners were stiffened and straightened using the same reversible adhesive (No. A-1023) applied by means of a syringe, and allowed to dry under a fairly good weight.

In cleaning the vellum covering I utilized a technique I learned from Stella Patri who worked at the Biblioteca Nazionale Centrale after the River Arno's flooding in 1966 in Florence. First I applied Magic Mend erasers to remove some of the grime. Then I applied a cleaning solution consisting only of warm milk applied with a wad of cotton. The cleaning effect is marvellous.

Following the printing of the Latin edition which numbered approximately 1500 copies came the translation into German. Dr. Peter Zahn feels there were only 1000 German copies printed. Ellen Shaffer in her *Nuremberg Chronicle* gives us some idea of the original cost of this work. It was offered for sale at two prices, Unbound and uncoloured it could be obtained for a third of the price of bound and coloured copies. At the time, printers had no mechanical means for the production of coloured pictures in their books. The colour had to be put in by hand. The price of unbound, uncoloured copies was two Rhenish gulden (Flemish guilders), those that were bound and coloured cost six gulden — prices of approximately \$26 and \$78 U.S. in 1950. At today's market the auction prices vary from ca. \$20,000 to \$60,000. An average price would be in the range of \$35,000. But \$26 and \$78 in Koberger's time was a fabulous sum to spend on a book. On the other hand some of the wealthy citizens of Nuremberg were likewise famous, and apparently they did not hesitate over the price. Leona Rostenberg remarks that "generally books were less expensive than the necessities of the patrician's daily life, his beer, his poultry, his spices."

The length of this article precludes a discussion of manuscript-layouts, or exemplars used in these cradle printed books. I can only refer one to Adrian Wilson's masterful work, *The Making of the Nuremberg Chronicle* where he discusses exemplars in depth. The exemplars were what the printer used to set up his type and allow space for the woodcuts.



The exemplars for the Latin and German editions, which are manuscript layouts and bound into books are still extant in the Stadtbibliothek, Nuremberg. They were one of a kind, the same size as the later published Chronicle, and models which determined the size and subjects of the woodcuts and the amount of text which would accompany them. They identified the blocks and supplied the manuscript text from which the printers set the type and positioned the illustrations. In short, they were both the book design or layout, and the printer's copy. The amazing thing is that they still exist in the city of Nuremberg and some of these codicil leaves have retained the smudged fingerprints of the great printer, Anton Koberger.

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