

# Who Printed Waldseemüller: Watermark Evidence from the 1507, 1513 and 1516 Maps

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The question of who actually printed the 1507 *Univeralis Cosmographiae* and the 1516 *Carta Marina* by Martin Waldseemüller is an issue that has long troubled scholars of Renaissance cartography. Both of the maps are large woodblock prints consisting of twelve sheets and are arguably two of the most important maps in the history of cartography. Elizabeth Harris discussed the problem of the printer in some detail in her seminal 1985 article, *The Waldseemüller World Map: A Typographic Appraisal*<sup>1</sup>. Harris, after detailing the typography of the 1507 map, comes to no solid conclusions as to exact identity of the printer but does make a case for either Johannes Gruninger or Johannes Schott, both of which were active in Strasbourg during the period. The most important conclusion of Harris' paper, based on typography and the condition of the woodblocks, was that the only surviving copy of the 1507 map, now in the Library of Congress, was printed sometime after 1515.

Recently, in preparation for the permanent exhibition of the 1507 map and the display of its companion<sup>2</sup> the 1516 *Carta Marina*, the Library of Congress undertook a thorough examination of both maps. Beta-radiographs were taken of the watermarks and a new technique of statistical shape analysis was employed to determine their similarity<sup>3</sup>. The analysis consisted of using transformational algorithms to determine the statistical differences in watermarks from the 1507 and 1516 world maps along with the watermarks from the 1513 edition of Ptolemy's *Geographia*.

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<sup>1</sup> Elizabeth Harris, "The Waldseemüller World Map" A Typographic Appraisal," *Imago Mundi* 37 (1985), 30-53.

<sup>2</sup> The Nuremburg mathematician and globe-maker Johannes Schöner bound the 1507 and 1516 world maps into the same portfolio sometime after 1516.

<sup>3</sup> John Hessler and Cyntia Karnes, "Eigenspectrum Deformation Analysis of Watermark Shape Variation Using Thin-Plate Splines: An Example from the Waldseemüller Map Corpus," *Proceedings of the 20<sup>th</sup> annual conference on Computer Imaging for the Analysis of Art*, (forthcoming, 2008)

The 1513 edition of the *Geographia* was initially worked on by both Waldseemüller and Mathias Ringmann and is the only part of the Waldseemüller map corpus for which both a date of publication and a printer is known. The 1513 edition of the *Geographia* was worked on by Waldseemüller and Ringmann for many years and is the version of the book for which they famously collated a group of Greek manuscripts<sup>4</sup>. Waldseemüller writes about the project in a letter to the Basel printer Johannes Amerbach dated the 5<sup>th</sup> April 1507:

...I think that you are aware that we are going to publish Ptolemy's *Cosmographia* with some new tables revised and added here in the town of St. Dié. And Since the exemplars do not agree, I am asking you to oblige me....In the Library of the Dominicans near you there is a version of Ptolemy written in Greek letters that I think was thoroughly emended from an authentic version. Therefore I ask you to do whatever must be done in order to borrow that book...for a period of one month<sup>5</sup>.

Even with this evidence type the chronology of all of Waldseemüller's works is problematic, as the group at St. Dié appears to have worked on several projects at once and over an extended period of time, interrupted by the death of their patron, Duke Rene II, in 1508, and the death Matthias Ringmann in 1511.

In the analysis presented here the watermarks taken from the 1507, 1516 and 1513 maps were subjected to various types mathematical transformations that allowed them to be overlaid and statistically compared (Figure 1).



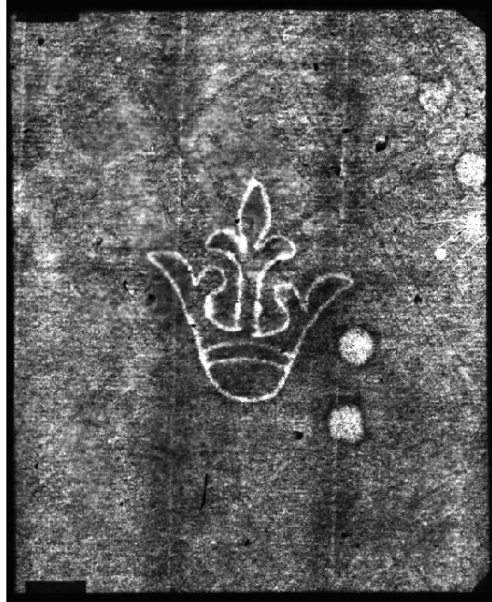
**Figure 1: Spline Overlay of Watermarks from sheets 1 and 2 of the 1507 Waldseemüller Map**

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<sup>4</sup> John Hessler, *The Naming of America: Martin Waldseemüller's 1507 World Map and the Cosmographiae Introductio*, Library of Congress, 2007.

<sup>5</sup> Johann Amerbach, *The Correspondence of Johann Amerbach: Early Printing in Its Social Context*, Trans. Barabar C. Halporn. Ann Harbor: University of Michigan Press, 2000

The watermarks from all of the sheets of the 1507 map fell into two forms that differed statistically significant ways from one another. The two forms are shown in figures 2 and 3 below.



**Figure 2: Watermark Form 1 from the 1507 World Map**



**Figure 3: Watermark Form 3 from the 1507 World Map**

The images above represent the only two forms of watermark found on the sheets of the 1507 world map and are probably from a single pair of moulds used in the manufacturing of the paper. Watermarks taken from the 1516 *Carta Marina* show the same exact pair of watermarks and do not vary in statistically<sup>6</sup> from those found on the 1507 map.

The fact that both the 1507 and 1516 World maps show only this particular pair of watermarks would have been interesting enough, but this watermark pair was also found on many of the maps that make up the 1513 edition of Ptolemy's *Geographia* printed in Strasbourg by Johannes Schott. Transmitted light images of the watermarks from the maps in this atlas also showed no statistical variation in shape from those from the 1507 and 1516 maps.

The particular pair of crown watermarks found in all three of the Waldseemüller materials examined show no signs of damage or any change in shape that usually comes from the continuous use of a pair of molds over a long stretch of time<sup>7</sup>. The particular shape of watermarks found in this group of maps has not been found in any other documents of maps that we know of. The fact the watermarks show no sign of change over what was supposedly nearly a decade between their production has led us to speculate, with Harris, on a shorter time range and that the 1507 map in the Library of Congress was printed in the period between 1513-1516. It has also allowed us to conclude, somewhat cautiously, based on the fact that these are the only known examples of this watermark that the only extant copies of the Waldseemüller 1507 and 1516 World Maps were printed in Strasbourg in the workshop of Johannes Schott.

### **Acknowledgments**

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<sup>6</sup>see Hessler and Karnes, 2008

<sup>7</sup> Eva Ziesche and Dierk Schnitger, "Elektronenradiographische Untersuchungen der Wasserzeichen des Mainzer Catholicon von 1460," *Archiv für Geschichte des Buchwesens*, Band XXI (1985), 1303-1360.