

THE ROLE OF PAPER IN CONSERVATION TREATMENT

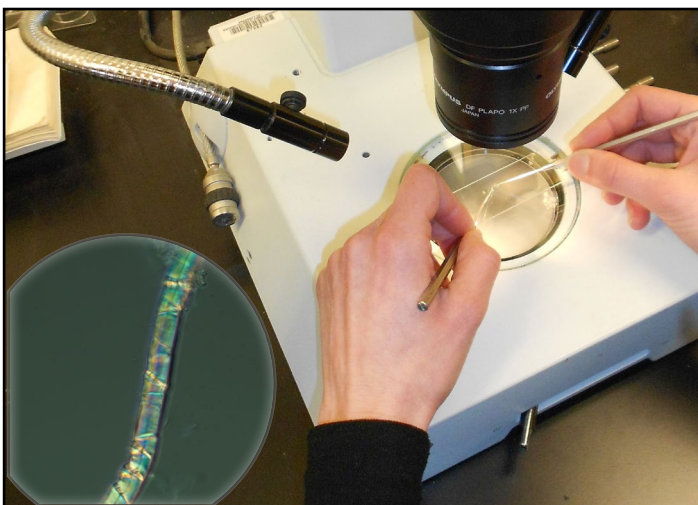
Paper plays an immensely important role in conservation treatment. The type of paper used to make a map, document, or drawing directly impacts its preservation. A newspaper made from wood pulp quickly deteriorates where a 17th century map made from linen fibers lasts for centuries. Knowledge of papermaking enhances a conservator's ability to determine appropriate treatment and preservation strategies.

The paper of this 17th century map was analyzed in the Conservation Lab to determine its fiber content and formation.



Accuratissima Brasiliae Tabula Amstelodami Henricus Hondius excudit: Henricus Hondius; Hull Collection; Rare and Manuscripts Division, Kroch Library

Observation under transmitted light showed this Western paper was hand-made on a chain and laid mould. The paper contains a watermark of the initials of the important Dutch papermaker, Pieter Van Der Ley. Watermarks are made by adding a wire design to the surface of the papermaking mould. This raised area of the mould holds less paper pulp, resulting in a thinner area of paper which lets light come through.



Using a polarized microscope to examine the morphology of the fibers, analysis revealed that the fiber is flax, likely derived from linen rags macerated into paper pulp. Linen has high cellulose content which results in long-lasting paper. A linen fiber from the Dutch map is seen here at 60X magnification. Linen fibers are characterized by the nodes (clusters of cross-marks) along the length of the fiber.

Microscope courtesy of Dr. Kathie Hodge, Professor, Plant Pathology, Cornell University.