Miracles in Miniature
The Art of the Master of Claude de France

ROGER S. WIECK

With a contribution by FRANCISCO H. TRUJILLO

THE MORGAN LIBRARY & MUSEUM
NEW YORK
Exhibition at The Morgan Library & Museum
30 May–14 September 2014

This exhibition is made possible by Frances Beatty and Allen Adler, Caroline Sharfman Bacon, and an anonymous donor, with assistance from the Visiting Committee to the Department of Medieval and Renaissance Manuscripts. The accompanying publication is underwritten by the Andrew W. Mellon Research and Publications Fund.

COPYRIGHT © The Morgan Library & Museum, 2014. All rights reserved. This book may not be reproduced in whole or in part, in any form (beyond that copying permitted by Sections 107 and 108 of the U.S. Copyright Law and except by reviewers for the public press), without written permission from the publisher.


Printed in the United States of America

Front cover: Master of Claude de France, May (Fig. 16; detail)
Frontispiece: Master of Claude de France, Coronation of the Virgin Mary (Fig. 26; detail)
Page vii: Master of Claude de France, Annunciation (Morgan Library & Museum, Ms. M.1166, fol. 18v; detail)
Page viii: Master of Claude de France, Assumption of the Virgin (Fig. 35; detail)
Page 4: Master of Claude de France, Virgin and Child with St. John the Baptist (Fig. 13; detail)
Page 64: Master of Claude de France, Trinity (Fig. 5; detail)
Page 76: Master of Claude de France, Christ’s Entry into Jerusalem (Fig. 1; detail)
Page 84: Master of Claude de France, Death of St. Jerome (Fig. 29; detail)
Page 90: Master of Claude de France, John on Patmos (Morgan Library & Museum, Ms. M.1166, fol. 1; detail)

Back cover: Master of Claude de France, SS. Geneviève, Veronica, Jerome (Morgan Library & Museum, Ms. M.1166, fols. 43, 27, 40; details)
Contents

vii  Director's Foreword

1  Introduction
ROGER S. WIECK

5  Fit for a Queen
The Art of the Master of Claude de France
ROGER S. WIECK

65  Tradition and Innovation in Sixteenth-Century Tours
A Conservator's View
FRANCISCO TRUJILLO

77  Oeuvre of the Master of Claude de France
ROGER S. WIECK

85  Bibliography
91  Index of Manuscripts Cited
93  Credits
95  Acknowledgments
Tradition and Innovation in Sixteenth-Century Tours
A Conservator's View

The Master of Claude de France is justly admired for his bold artistic style on a small scale. His style is distinctive for his choice of palette and the exquisite execution of his paintings. Active in Tours during the first decades of the sixteenth century, the Claude Master's predecessors were Jean Poyer (fl. 1483–1505) and Jean Bourdichon (1457–1521). Works by artists of Tours—Poyer, Bourdichon, and the Master of Claude de France—form a progression of manuscript illumination that provides a rich source for the study of materials and techniques. The artists' physical and artistic proximity informed their technique, but their styles remain their own. Tracing the stylistic and technical pedigree of the Claude Master within the context of the color palettes of all three Tours artists is the topic of this study.

Illuminated Manuscripts and Their Decoration
Illuminated manuscripts have been admired for centuries for their beauty as well as for their ability to transmit religious devotion via brilliant imagery. The first step in producing an illuminated page was the execution of the desired image, called the underdrawing, on parchment using a range of media, typically ink, graphite, or lead. Thin foils of gold or silver were then applied to areas of the image, providing their "illuminating" quality. Finally, a rich palette of colored pigments, mixed with water and a binder, was used to complete the image.

Pigments were typically derived from earth minerals or plants. Copper-containing earth minerals included azurite for blues and malachite for greens. Some blues were made from ultramarine, a color rich in aluminum and silicone but lacking in copper. Lead-containing minerals produced colors such as red lead and lead white. Pigments such as iron oxide produced dull reds. Some reds were made from mercury-containing cinnabar or its synthesized version, vermilion. Colors from these pigments could appear to be similar, but because of their differing composition, could be more or less opaque. Organic colorants were made from a variety of plant species like indigo, woad, or brazilwood. As with minerals used to create pigments, each plant produced a different color. Poyer, Bourdichon, and the Claude Master would have been well versed in the visual qualities and working properties of all available
color options. Close analysis of their choices and the manner of their application can reveal each artist’s signature style.

Scope of Study
The scope of this study encompasses four manuscripts in the Morgan’s department of Medieval and Renaissance Manuscripts:

**MS M.50:** Prayer Book of Anne de Bretagne, ca. 1494, Jean Poyer, illustrator;
**MS H.8:** Hours of Henry VIII, ca. 1500, Jean Poyer, illustrator;
**MS M.732:** Holforf Hours, ca. 1518, Jean Bourdichon, illustrator; and
**MS M.1166:** Prayer Book of Claude de France, ca. 1515–17, the Master of Claude de France, illustrator.

Three leaves were chosen for examination from each manuscript, except from MS M.1166, from which six folios were chosen because of the small size of the manuscript and the continuity of the images on the folios. The following folios were examined.

**MS M.50:**
Fol. 8: *Supper at Emmaus*
Fol. 10v: *Anne de Bretagne at Confession*
Fol. 11v: *Angels Displaying the Eucharist*  
(Fig. 74)

**MS H.8:**
Fol. 30v: *Annunciation*
Fol. 69v: *Massacre of the Innocents and Flight into Egypt*
Fol. 108v: *David and Uriah*  
(Fig. 75)

**MS M.732:**
Fol. 29v: *Pentecost*
Fol. 46v: *Presentation in the Temple*
Fol. 36v: *Assumption of the Virgin*  
(Fig. 76)
**Methodology**

The aim of the examination was to establish the palette used by each artist and to compare and contrast the findings to discover any patterns of similarity or difference between them. A variety of nondestructive imaging techniques was used to analyze the Tours artists’ palette.
Each folio to be examined was first digitally photographed. Following the digital photography, the folios were imaged using a vidicon camera. This specialized type of camera "sees" through paint layers by taking images in the 1500-nanometer (nm) infrared (IR) range, well beyond the visible spectrum range of 400–700 nm. Imaging beyond 700 nm begins to allow the viewer to see any underdrawing through the paint.

False color infrared (FCIR) imaging was then taken of each selected folio. The creation of FCIR images involves linking an IR image with components of the visible (true color) image in order to make interpretation easier. The combination of a visible image with an IR image distinguishes colors that appear the same to the naked eye. FCIR imaging recombines the red, green, and blue (R, G, B) channels of the visible image with the IR image to create a new visible image. This imaging is often used to differentiate azurite from ultramarine. The former remains blue in FCIR, while the latter transmits as red. Each pigment has a specific color change under FCIR. It is a useful visual analytical tool, but it is only a first step in identifying pigments.

The final imaging technique used was X-ray fluorescence spectrometry (XRF), which analyzed eight to twenty discrete areas of pigment on each folio. XRF emits gamma rays onto an intended target, exciting the chemical elements of the targeted pigment area. The XRF instrument then reads the amount of specific radiated energy and translates that to determine the target's elemental content. It is a useful tool for identifying elemental pigments, such as copper-containing azurite or mercury-containing vermilion, but is unable to determine the presence of organic colorants.

The analytical tools provided a technical view into each artist's color choices.

Artists of Tours

The illuminated manuscripts created by the three artists in this study form a chronologically and geographically cohesive body of technical information about the materials and techniques used in sixteenth-century Tours. It is to be expected that their methods are generally similar. It is in the particulars—in the idiosyncrasies—however, that each artist is uniquely identified.

Poyer

Jean Poyer used underdrawings to create MS H.8.1 Corrections were visible using the vidicon camera on multiple folios, including fol. 108v (Fig. 78). XRF revealed a straightforward palette, one that primarily comprised unadulterated pigments. For example, Poyer's blues consisted almost exclusively of copper, the main mineral composition of azurite. The reds were made mostly of lead, to the exclusion of almost all other elements. This indicates that Poyer used red lead, a mineral earth pigment. There were no unexpected pigment choices used by Poyer in MS H.8.

In MS M.50 Poyer appears to have made more extensive use of organic pigments, or lakes, a technique that gives the manuscript its ethereal quality and one that will be revisited in the context of the Claude Master's work. Lakes are pigments composed of organic dyes that are made insoluble via precipitation onto an inert filler using a mordant, often a metallic salt.4

Bourdichon

The leaves analyzed from Bourdichon's MS M. 732 showed no evidence of underdrawings. This artist seemed to envision exactly what he wanted; the page contains few signs of indecision or correction. This has led to the argument that Bourdichon was a more highly disciplined court painter who was required to produce illuminations of a certain prescribed quality efficiently. Bourdichon's mixed palette, however, belies his image as a buttoned-up court painter. Unlike Poyer, Bourdichon made extensive use of rare and expensive ultramarine for his blues—owing perhaps to his court patron—and developed a signature look by outlining his full-page illumina-
Claude Master

At the end of this chain of artists, the Master of Claude de France employed the materials and techniques of both Poyer and Bourdichon—not surprising, especially since he worked directly under Bourdichon early in his career. Underdrawings and corrections thereto are visible in his work (Fig. 79). He used ultramarine in his blues and also appears to have used lake pigments. In many ways, the Claude Master’s work is a synthesis of the techniques of his forebears and the culmination of the Tours style of this period. Much of the wonder one experiences in seeing the images in the Prayer Book of Claude de France is based on its small size. Each folio measures a mere 7 × 5 centimeters (2 3/4 × 1 7/8 inches). That the Claude Master could create such a world in miniature is often the talent for which he is lauded. The scale of his work sets him apart from his peers, but this study provides evidence that he was an innovative artist as well.

Evidence

Multiple discrete areas of pigments were examined using XRF on each manuscript page selected for study. The accumulated data (eight data points per page, minimum, for fifteen examined pages) provides an overview of each artist’s materials. In order to make the data tangible, it will be discussed in terms of color. The boxed charts for each color show the data points used to make the general observations of the pigments used by the artists. Data points (in bold) correspond with the numbers circled in yellow on Figs. 74 through 77.

<table>
<thead>
<tr>
<th>GREEN</th>
<th>fol. 8: none</th>
<th>fol. 10v: none</th>
<th>fol. 11v: none</th>
</tr>
</thead>
<tbody>
<tr>
<td>fol. 30v: 4a</td>
<td>fol. 69v: none</td>
<td>fol. 108v: 4</td>
<td></td>
</tr>
<tr>
<td>fol. 29v: 4, 7</td>
<td>fol. 46v: 1, 2</td>
<td>fol. 56v: 1</td>
<td></td>
</tr>
<tr>
<td>fol. 15v–16: 6</td>
<td>fol. 18v–19: 3</td>
<td>fol. 24v–25: 10</td>
<td></td>
</tr>
</tbody>
</table>

Poyer and Bourdichon had a straightforward approach to green fields of color: they both used malachite, a traditional green mineral pigment. Its presence is indicated in XRF by large peaks of copper.
Malachite is a green basic copper carbonate mineral. The Claude Master also used malachite but not to the same degree of purity as Poyer and Bourdichon. His greens have a higher lead content, a possible indicator of the use of lead white to temper the color. There are indications of a mercury-based pigment being mixed in the Claude Master’s greens. The presence of mercury indicates that either cinnabar or vermilion was used as a red pigment by the Claude Master to temper his greens. Cinnabar, mercury (II) sulfide, is a naturally occurring earth mineral, while vermilion is the term used for the synthetic forms of cinnabar. The terms cinnabar and vermilion are often used interchangeably. By the early sixteenth century, it is likely that vermilion would have been the actual pigment used by the artists of Tours.

Poyer’s blues are uniformly azurite. Azurite is a hydrated copper carbonate mineral and is an analogue of malachite. Poyer’s light blues are tempered with lead white. Bourdichon’s blues are more complex. He consistently used ultramarine, a blue often associated with high cost, high quality, and high patronage. The Bourdichon blues all have one thing in common—they depict the Virgin Mary’s robe. Ultramarine is derived from the mineral lapis lazuli, which is particular to regions of the world remote from Tours and western Europe. Its cost would have reflected its rarity. The presence of aluminum and silicon in the XRF readings indicates the use of ultramarine. The Claude Master used a mixture of azurite and ultramarine to create his blues. They are low in copper content and are used to color many aspects of his illuminations. For folios 18v–19, he used blues rich in ultramarine to depict sky, clothing, and coats of arms (Fig. 80). Perhaps the size of MS M.1166 enabled him to use ultramarine so liberally, but it is also an aesthetic choice as it softens the look of the sky blues and gives his backgrounds their luminous quality.
Poyer and Bourdichon used a mix of copper-containing azurite and red lead to achieve their dark purple colors. Bourdichon’s signature purple outline is a mixture of azurite and red lead. The Claude Master’s purples are very low in copper. He instead used mixtures of ultramarine and red lead for his purples. Additionally, in fol. 13v of MS M.1166, the purple palette extends into a brownish hue to depict rock formations in the landscape (Fig. 81). The Claude Master achieved this through the admixture of a mercury-based pigment. The remarkable variety of purple tones in MS M.1166 is one of the visually defining features of the Claude Master’s style.
Bourdichon, in the pages examined, did not employ light purple or pink shades. Poyer and the Claude Master did make extensive use of light tones of purple and pink. The similarities in palette are strong in MS M.50 for Poyer and MS M.1166 for the Claude Master. They are both trying to achieve a light tone. It is likely that they used organic lake pigments to attain this look. Organic dyes are not perceptible via XRF. There are large quantities of lead white and no other element in the light purples and pinks of MS M.50 and MS M.1166. The lack of other elements in the light purple and pinks leads to the conclusion that lake pigments were used to create the colors.

The reds are present in myriad mixtures. Curiously, it is the Claude Master who was the most staid when it came to red. He mainly used red lead with some azurite mixed in to achieve his reds. This is surprising in the context of his liberal use of mercury-based red pigments like vermilion throughout the rest of the manuscript. Poyer mainly used the same red lead and azurite mixture for his reds, but he used vermilion to achieve a dark color to depict the red velvet cover of a book in fol. 30v of MS H.8. It was Bourdichon who consistently sprinkled vermilion into his red mixtures. He, too, used mixtures of red lead and azurite for his reds, but vermilion is present throughout his red palette.

**RED—SPECIAL NOTE**

<table>
<thead>
<tr>
<th>MS</th>
<th>Fol.</th>
<th>Vermilion</th>
</tr>
</thead>
</table>
| M.50 | 8    | fol. 10v: 8
| M.732 | 8    | fol. 56v: 8
| M.1166 | 8    | fol. 18v–19: 8

Each artist’s red mixtures show variability. It was striking, however, to find an almost exact XRF spectra match for the composition of pigments used to create the background red of columns and initials in the manuscripts. Data point 8 of MS M.1166, fol. 18v; MS M.50, fol. 10v; and MS M.732, fol. 56v revealed what seems to be a formulaic mixture of color to illuminate architectural devices (Fig. 82). A mixture of red lead and azurite was used to make a dark, rich red. This red was applied to banal background areas. One can hypothesize that the work of painting such backgrounds could be left to studio assistants or was a standardized approach that freed the masters to concentrate on the depiction of human figures and the action of the illuminations.
All three artists employed red lead and vermillion to create bright orange colors, often depicted as flames with the presence of angels. This color, like the reds in architectural backgrounds, appears to be one that was made in a specific manner and rarely elaborated upon.

Many of the techniques and pigments used by the Claude Master are similar to those of his predecessors. It is in the extensive use of mercury-based pigments—vermillion, most likely—that he set himself apart. Poyer and Bourdichon used vermillion in the creation of their reds and oranges but not other colors. The Claude Master diverged from the traditional use of vermillion by mixing it into a variety of colors: purple, orange, brown, and green. The data points show the variety of shades, colors, and areas in which he used mercury-based pigments. The small scale of the manuscript may lead one to conclude that the preponderance of mercury can be attributed to inadvertent mixtures, or overlapping, of pigments. The opposite, however, is true. The Claude Master was meticulous in his use of mercury-based pigments. Within an area of a mere 2.3 centimeters, a range of purple hues is used, each precisely applied and significant to the overall visual effect of the illuminated page (Fig. 83). The size of MS M.1166 required a level of precision in the application of color. The Claude Master was a bold artist, fully engaged with his subject, able to make decisive and inventive color choices in a minutely restricted space.

**Tradition and Innovation**

The Prayer Book of Claude de France (MS M.1166) was influenced by that of her mother, Anne de Bretagne (MS M.50). This likely was a deliberate choice by the Claude Master, who was, after all, commissioned by a queen well versed in the high art of illumination and who had commissioned from him another manuscript for her sister, the primier in Modena (Figs. 49, 51). The twenty-five years between the creation of the prayer books saw the death of Poyer and the apex of the Claude Master. Organic colorants were used extensively on both manuscripts. Red pigments in the architectural backgrounds appear to have been made from a rote recipe. While both manuscripts are ethereal (Fig. 84), the Claude Master reimagined his in a new and visually exciting manner. Poyer used a straightforward palette of unmixed mineral pigments and lake dyes. The Claude Master used many of the same pigments, but mixed pigments with vermillion to extend his palette. It is this seemingly small mineral addition that transformed the Claude Master from Tours traditionalist to singular artist. His inventiveness was in the counterintuitive manner in which he added vermillion to his palette. Poyer and Bourdi-
ochon used vermilion to enhance their reds. The Claude Master used vermilion to make almost every other color but red richer, more nuanced, and visually enticing. Despite the visual similarity between MS M.1166 and MS M.50, something new was achieved. It was in the small things—the miniaturization of his style, the unexpected mixtures of pigments to create his palette—that the Claude Master distinguished himself from Poyer and Bourdichon.

Conclusion

The Master of Claude de France assimilated the working methods and materials of his predecessors Jean Poyer and Jean Bourdichon to create a distinct style that was rooted in the manuscript illumination traditions of Tours but much influenced by the vision of the Prayer Book of Anne de Bretagne. The Claude Master worked with or near Poyer and Bourdichon for many years, but their proximity did not inhibit his style. His masterpiece, the Prayer Book of Claude de France, could not have been completed—in many ways could not have been contemplated—without the skill and knowledge of his fellow Tours artists. Fortunately, however, it was completed—masterfully, innovatively, uniquely. The Master of Claude de France transformed tradition through innovation. He presented Claude, the queen of France, with an illuminated jewel, similar in many ways to others of the period, but completely his own.

Notes
2. Bruker AXS Tracer III/IV® portable unit (Rh target, Al-Ti-Cu filter) using a voltage of 14kV and a current of 1.5mA.
3. Wieck et al. 2000, p. 32. Poyer’s use of underdrawing was found in the Lallemand Missal, MS M. 495, also at the Morgan Library & Museum.
5. Turner 2005, p. 67. The finding of bismuth confirms the research done on Bourdichon’s pigments by Nancy Turner, paper conservator at the Getty Museum. A special note of thanks to Nancy for pointing this out in conversation and thus providing an avenue of research that would otherwise have gone unexplored.
Acknowledgments

The following have been especially generous to me with their time and expertise: Alison Dickey, Eugenia Donadoni, Roland Folter, Maxence Hermant, Sandra Hindman, Mara Hofmann, Laura Jereseki, Eberhard König, Theresa Zammit Lupi, James Marrow, the Reverend Dan Noll, Kiley Samz, Robert Schindler, Giovanni Scorcioni, Kay Sutton, Heribert Tenschert, Martin Tenschert, and Rowan Watson. I also found working with the Schoenberg Database of Manuscripts fruitful. Special thanks to Nicholas Herman, with whom I had many stimulating conversations and who kindly shared his dissertation while in progress. My husband, Jean-François Vilain, provided essential, patient support.

R. S. W.

The study of the Claude Master and his contemporaries would not have been possible without the expertise, support, and enthusiasm of Dr. Cindie Kehlet, Dr. Eleonora Del Federico, Dr. Antonino Cosentino, and Amelia Catalano of the Pratt Institute. Funding for the portable XRF was provided by The Camille and Henry Dreyfus Foundation. My colleagues in the Thaw Conservation Center: Margaret Holben Ellis, Maria Fredericks, Reba Snyder, and Lindsey Tyne always support my work. Brenna Campbell, Georgia Southworth, and Dan Paterson read early drafts of the study and provided essential feedback and correction. My wife, Stephanie Leahy Trujillo, and our boys, Oscar and Hugo, make every day a great adventure.

F. H. T.