

Robots and Rembrandt: Technological and Archival Research in Printmaking

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Abstract

Printmaking is an area of artistic practice that has a rich history both within fine art and in popular media. A practice in printmaking involves artistic vision, technical expertise, experimental approaches to making, and a deep knowledge of the histories of print. *Robots and Rembrandt* took a two-pronged approach to investigating the relationship of Print Media practices to technology, by simultaneously looking at the past for historical grounding while also preparing for the future through material research and studio-based inquiry. This project has two parallel streams of investigation: *Robots*, led by

Beth Howe, and *Rembrandt*, led by Diyan Achjadi. In *Robots*, Beth Howe integrates new technological tools into historic intaglio processes. Using the historic prints as references, custom software was written to guide a robotic machine to create a 21st Century etched plate. In *Rembrandt*, Diyan Achjadi looks into historic intaglio prints in the Yosef Wosk Collection to begin building institutional knowledge about this collection. Together, the project aims to propose contemporary manifestations of print through the study of its historical origins.

Introduction



Fig. 1
Adrienne le Couvreur (1692-1730).
Engraving by Pierre-Imbert Drevet, after a painting by Charles Antoine Coypel, between 1730-1738. Le Couvreur was French actress who died mysteriously in 1730.

The Yosef Wosk Masterworks Print Collection currently holds over 500 prints and books that were donated to Emily Carr University of Art and Design (ECUAD) in Vancouver, BC. Dr. Wosk has described this collection as a way to “enable students to engage a series of original works, inspired by some of the best printmakers working over a period of almost five hundred years.”¹ With ECUAD’s campus move to a new, purpose-built facility in 2017, the Collection was provided with a home within the library archives, enabling easier access for faculty and students alike.

Beth Howe and Diyan Achjadi, faculty in the Print Media area of ECUAD, began to activate the Collection by incorporating its study within their co-taught senior-level course as well as introductory-level printmaking courses, encouraging students to research and learn from individual prints, gaining understanding of their processes and contexts in order to enrich their own contemporary practices in printmaking. Through this curricular endeavour, and eager to build ongoing engagement with the

1. <https://ecuad.arcabc.ca/wosk>

Collection as educators and as artists, a number of questions arose for us:

- The Collection has not yet been studied in depth, and many of the prints and books have only cursory information attached to them. How could we continue to build the institutional knowledge of the works in the Collection, with an aim to making it more accessible to future researchers?
- As artist-printmakers, we both incorporate the study of historic techniques along with experimentation with contemporary processes in our individual practices. How could we take the research from the archive and activate it in the printshop, informing the creation of

new works?

- And finally, how could we build capacity for research in printmaking and print history in our institution? Could the process of studying historical techniques and contexts while simultaneously exploring new methods of making prints offer students methodologies and pathways into research?

Robots and Rembrandt, funded by a year-long SSHRC Institutional Explore Grant, is an initial exploration of these questions. For this project, we worked with Research Assistant, Maren King, a (then) 3rd-year Visual Arts student whose own practice integrates archival research, design methodologies, and printmaking.

Rembrandt: Positioning and Contextualizing the Archive

The Wosk Collection is quite expansive in the range of media, genres, and eras of printmaking that it includes. As it sits within the library of a practice-based institution with a focus on contemporary art production, there has not yet been much work in developing associated research guides towards understanding the specific origins and histories of many of these prints. Amongst the earliest prints in the Collection are a grouping of 17th- and 18th- Century European portrait engravings. The data associated with these prints was often limited to maker / engraver (if known); title / name of person depicted; approximate year; and a condition report. Many of these prints also include text inscribed onto the plates, with some details on the subject of the print as well as some information on the circumstances around their publication and distribution. As such, they became an ideal starting point for the project.

In building a research bibliography for these prints, we focused on three key questions:

- What was the significance of the person depicted?

- What could we learn about the engraver, and their role in this publication process?
- What were the specific publication conditions for these prints?



Fig. 2
Jeanne D'Autriche (1547-1578).
Engraving by Gerard Edelinck, c.1650. Detail.
Jeanne, or Joanna of Austria was the mother of Queen Marie de Medici, this portrait is after a 1625 painting by Rubens in the Louvre, commissioned as one in a series depicting the life of the queen.

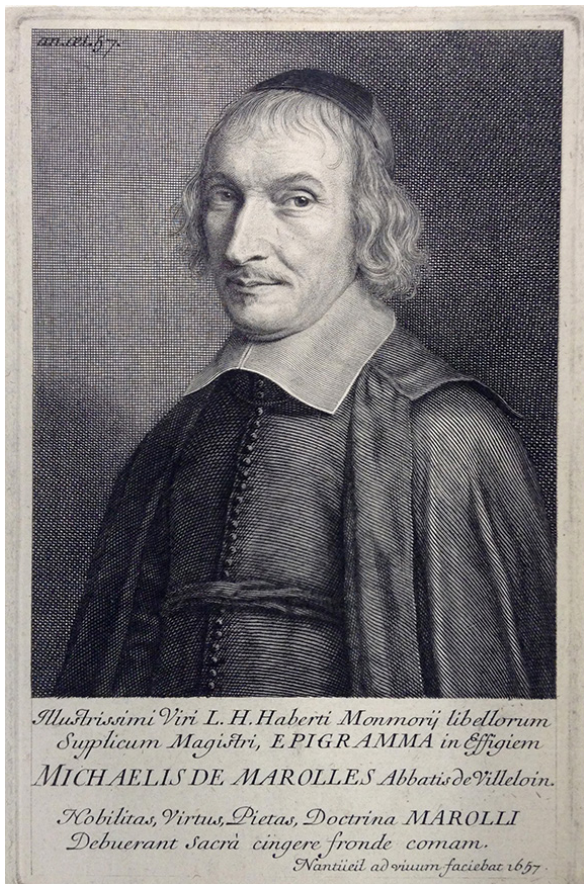


Fig. 3
 Michel de Marolles (1600-1681).
 Engraving by Robert Nanteuil, 1657.
 Michel de Marolles was a French clergyman, genealogist, translator, and writer, as well as an avid print collector.



Fig. 4
 Joannes Baptista Barbe (1578-1649).
 Engraving by Schelte Adamsz Bolswert after Van Dyck's grissaille, and published by Martin Van Enden, between 1630-1645.
 Barbe was a Flemish engraver, publisher, and art dealer.

In response to these questions, and drawing from academic sources published from early twentieth century to present day, Maren King produced a six-page study guide *Seventeenth Century Engraving in the Wosk Collection*. This guide provides context into the historical climate that produced these prints for the purposes of an enhanced understanding of intaglio printmaking and the evolution of its social and cultural role. This process also allowed us to update ECUAD's local database information regarding these prints, which was sometimes incomplete or incorrect.

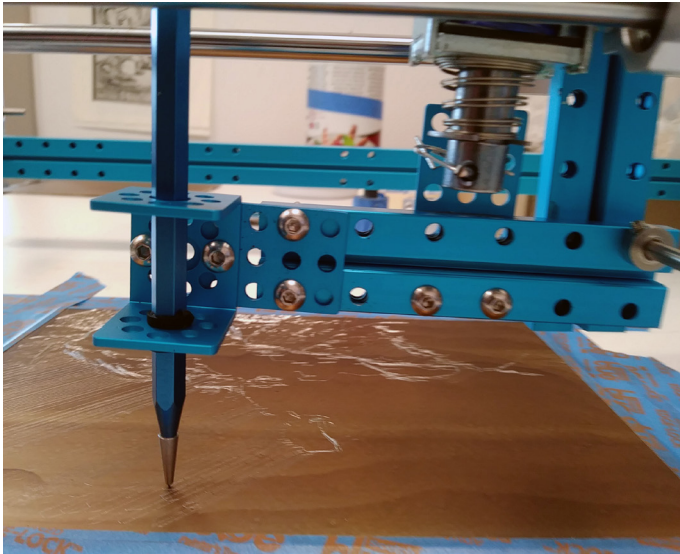
For instance, the institutional records for *Michel de Marolles* (fig. 3) note a publication date of between 1630-1730, and that the artist is unknown. We quickly found its author to be Robert Nanteuil, who engraved and published this print in 1657. Robert Nanteuil was a French engraver whose technical innovations in portrait engraving led to the official recognition by Louis XIV of engraving as a distinct artistic practice. De Marolles' vast collection of prints (including work of around 6000 printers)

formed the basis of the *Cabinet des Estampes in the Bibliotheque Nationale* in Paris.

Similarly, the records for *Joannes Baptista Barbe* (fig. 4) note that this prints' publisher Martin van Enden as its engraver, rather than Schelte Adamsz Bolswert. This print is part of Anthony Van Dyck's *Iconography* series, depicting prominent royal, military, scholarly and artistic figures of his time; the Wosk Collection includes seven prints from this series. The inclusion of portraits of engravers such as Barbe in *Iconography* points to their relative social and political status.

Examining these prints gave us a better understanding of the relationship between artists, engravers, and publishers in the commissioning and distribution of portrait engravings, as well as the terminology used to denote these contexts. Supplemental information about the subjects has helped to enrich the understanding of their significance in the Collection.

Robots: Bringing the Past into the Present



An aspect present in all print processes is the way in which the manner of making a plate translates into a distinct set of aesthetic qualities in the marks produced (i.e. carving into a woodblock with a gouge creates a mark distinct from the mark left on the litho stone with a grease crayon). Continuing in the intaglio tradition of our source prints, we took this opportunity to test the viability of a Makeblock kit XY Plotter as a scribe of marks in replacement of the human hand (Fig. 5).

Whilst we were ostensibly scribing onto a varnished plate with an etching needle in the conventional way, the scribe was held not with a hand but an XY arm on a DIY robot. As the Makeblock Plotter does not have a 'Z-axis' which would allow for up-and-down movement, we configured a solenoid that could lift the scribe up and then drop it back down. The arm's movements are governed by a quantitative set of rules -- algorithms in a software program we wrote (Fig.6) -- rather than the embodied knowledge of a practiced hand. The resulting marks are distinctly a result of this manner of creating the plate: they can be skittering, hairy, or extremely regular, but they betray a lack of awareness of the subject of the work, in that no part of the image is treated specially.

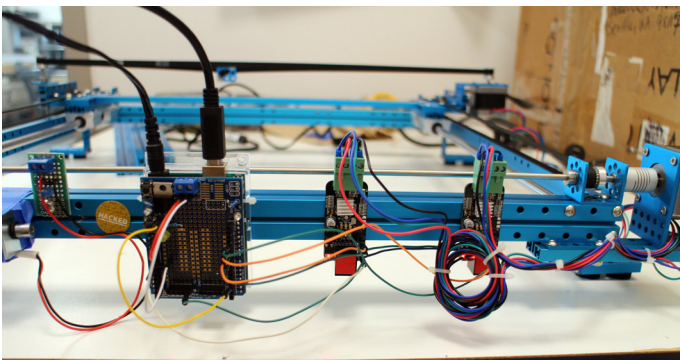
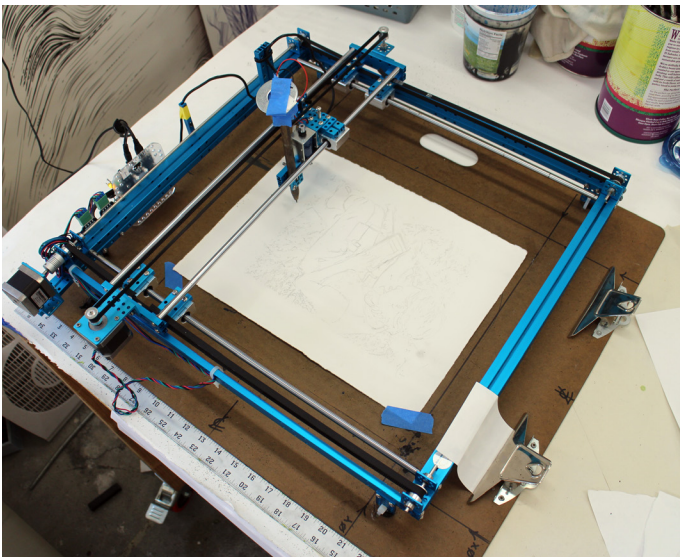


Fig. 5
Top to bottom: Makeblock plotter with etching scribe, testing the code with pen and paper, arduino controls.

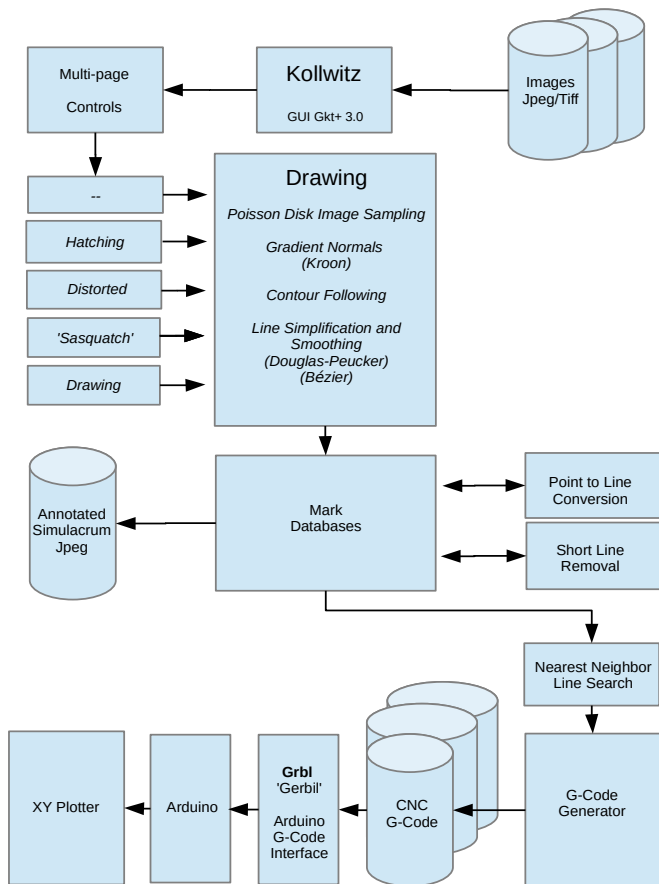


Fig. 6
System diagram for the software program 'Kollwitz.'

Considering the historic prints, it is evident upon close examination that hands and faces are treated differently - stippled, or engraved with finer lines - than finery and backgrounds. This gives the faces and hands a fleshier aspect and draws our eye to the portrait's subject. (Fig 7)

Beth Howe has worked with artist and programmer Clive McCarthy to write custom code for other projects. "Kollwitz" is a drawing program that processes and modifies continuous tone images into line-based marks. Equipped with a G-code generator and arduino controls, the software could be used to govern the XY Plotter to produce line-based mark-making for etching plates.

Because of Howe's programming experience, we have the capacity to consider how we can or cannot code the subjectivity inherent in those choices. How would we write code that 'knows' what the most important part of the image is? Who determines what is important in an image? This leads to the very alive, contemporary conversation around the rapid development of AI, facial recognition software, neural networks and the far-reaching social implications of those tools.



Fig. 7
Print details from Barbe (fig. 4) and le Couvreur (fig. 1).

Materiality and Process

Returning to the portrait engravings that we focused on in *Rembrandt*, we undertook a practice of “close looking”, taking time to study the materiality of these objects, the qualities of the printed marks, and examining their processes. As our intention was never to reproduce these prints, but rather to take them as points of origin for further work, we decided to hone in on specific details that were common

amongst many of these engravings, such as highly-posed hand gestures, as well as the attention to the surface and texture of clothing and other status markers. These details were then processed through the “Kollwitz” program for scribing onto metal plates via the Makeblock Plotter (fig. 8 and fig. 9).



Fig. 8
Plotter tests for *le Couvreur*



Fig. 9
Plotter tests for *Barbe*



Fig.10
Maren King working on an aluminum salt etch.

Material testing is central to our pedagogical approach, training students to systematically work through techniques and processes in order to better understand the chemistry, inks, and papers they work with, as well as the impact of their material decisions on the potential readings and receptions of their work. The ECUAD print studios have exclusively etched copper with ferric chloride baths, and part of this project sought to explore the possibilities of etching aluminum with a saline sulfide etchant (we relied on the processes developed and shared by Friedhard Kiekeben, Cedric Green, and Nik Semenoff²). This allowed us to develop a set of procedures for using this etchant in the print studios, as well as to share detailed documentation of this testing process with our students (fig. 10).

As a conclusion to this year-long project, we produced one edition for an exchange portfolio for *Transposing Attitudes: The 5th Rocky Mountain Printmaking Alliance Symposium*, working collaboratively on its printing (fig. 11, fig. 12 and fig. 13).

² <https://www.nontoxicprint.com/etchinginovationcontent.htm>



Fig 11
In the process of editing *The Hand of Joannes Baptista Barbe*.

Future Directions

This initial phase of *Robots and Rembrandt* allowed us to focus on a small portion of the Wosk Collection, using the archive as a means to better understand historical contexts for print production and distribution, and to connect these to their legacies in the present day, underscoring the role of the history of printmaking as core to the understanding of media history and contemporary technologies of image reproduction. We see opportunities to expand this model of research into other areas of the Collection, continuing to build on the institutional knowledge of subsets of prints while experimenting with machine-led, algorithmically-derived markmaking in different printmaking processes. In addition,

we are beginning to identify gaps in the holdings and are collaborating with the ECUAD Library in proposing a collection and acquisition strategy to include more contemporary prints by Canadian and Indigenous artists, especially from the Pacific Northwest where our institution is located. We hope to continue to build on this model of interdisciplinary investigation and institutional collaboration to support and empower more students in developing their own research practices, while also building on the range of technical means of production available to students and faculty at ECUAD working in printmaking.



Fig. 12
Signing and adding the *Robots and Rembrandt* chopmark to *The Hand of Joannes Baptista Barbe*.

Image credits

Fig. 1

Image YW331d courtesy of the Worsk Masterworks Print Collection, a digital initiative of Emily Carr University of Art and Design Library.

https://ecuad.arcabc.ca/islandora/object/ecuad%3A501?solr_nav%5Bid%5D=0406ce097a-266777caad&solr_nav%5Bpage%5D=0&solr_nav%5Boffset%5D=0

Fig. 2

Call no. YW333b <https://ecuad.arcabc.ca/islandora/object/ecuad%3A511>

Photo credit: Beth Howe

Fig. 3

Call no. YW332a <https://ecuad.arcabc.ca/islandora/object/ecuad%3A504>

Photo credit: Beth Howe

Fig. 4

Image YW234 courtesy of the Worsk Masterworks Print Collection, a digital initiative of Emily Carr University of Art and Design Library. https://ecuad.arcabc.ca/islandora/object/ecuad%3A520?solr_nav%5Bid%5D=5c02196bc730fd15f91d&solr_nav%5Bpage%5D=0&solr_nav%5Boffset%5D=10

Fig. 6

Diagram courtesy of Clive McCarthy

Fig. 5, 7, 8, 9, 10, 11, 12, 13

Photo credit: Beth Howe

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Fig. 13
The Hand of Joannes Baptista Barbe
Etching on paper
14" x 11"
Edition of 25