



HIST GU4962

**Making and Knowing in Early Modern Europe:
Hands-On History
Tuesdays 10:10am-12:00pm**

Instructor:

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Office hours: Fridays, 1–3pm with Naomi (or by appointment)

This course is associated with the [Making and Knowing Project](#) of the [Center for Science and Society](#) at Columbia University. Please sign up for announcements for both on the websites!

DESCRIPTION

This course introduces students to the materials, techniques, contexts, and meanings of skilled craft and artistic practices in early modern Europe (1350-1750), in order to reflect upon a series of topics, including craft knowledge and artisanal epistemology; the intersections between craft and science; and questions of historical methodology in studying the material world of the past.

The course will be run as a “Laboratory Seminar,” with discussions of primary and secondary materials, and their relationship to a set of hands-on activities. A primary goal of this lab seminar is to foster activities through which students can reflect on how learning and knowledge-making takes place through texts and through experience (including hands-on activities). Throughout the course, you are asked to reflect upon your own process of learning.

Another of the seminar’s goals is to give students the opportunity to engage with the published edition of Fr. 640, [Secrets of Craft and Nature in Renaissance France](#), to contribute to the creation of the Making and Knowing Project’s [Research and Teaching Companion](#) (RTC). The culmination of the semester is a Final Project of your own devising. These exploratory and experimental projects will help to brainstorm, design, and implement alternative paths by which to access the material included now in *Secrets of Craft and Knowledge* and/or provide other forms of disseminating and engaging with the themes. Unlike print publications, open-access digital publications do not have an institutional framework by which they are discovered and disseminated. It is thus important to come up with alternative paths by which the digital edition can be accessed, discovered, disseminated, and, ultimately, made sustainable through use. Students in past classes have produced digital/textual analysis of Ms. Fr. 640, reconstruction insight reports, videos for the Companion, lesson plans, and many other original and creative projects, which are now available on the [Sandbox](#). Throughout the semester, you will work closely with the Making and Knowing team to develop potential areas of exploration for the Final Project. On successful completion, your Final Projects will be published as part of the [Research and Teaching Companion](#) or the [Sandbox](#).

Making and Knowing on Twitter: You can follow the Project on Twitter [@MakingKnowing](#) and tweet any photos from your hands-on activities (we will re-tweet).

ASSIGNMENTS AND EVALUATION

The following components account for the total grade in the course:

15% Participation, Presence, and Discussion

- Any learning experience is about showing up, being present, and attending to your interlocutors and your own process of learning and integrating course materials. Students are expected to come prepared for the discussion sessions and to be truly present in class discussions and activities. Please email Professor Smith, Naomi, and Caroline if you will need to be absent from class.

10% Presentation on Historical Culinary Recipe Reconstruction

- Working in groups, prepare and present a powerpoint on your Historical Culinary Recipe Reconstruction in class on Jan. 31. Your powerpoint should be uploaded to Courseworks by Jan. 30, 11:59pm.

25% Hands-on Assignments and Reflections

- Most weeks include a hands-on activity. Students should plan to spend about 5 hours/week outside of the class meetings on lab and homework, in addition to preparing for class discussion. Each student will reflect on their hands-on activities and documents with words and photos of their hands-on work, their

reflections on that work (including in the light of the readings and discussions) and anything else they wish. This will necessitate taking notes and photos during all your hands-on work - you might want to keep daily or weekly journal entries (with photos), but more formal reflections are due as follows (please date all entries):

- Participation and Presence goal(s) - what drew you to this course; what do you hope/expect to learn in this course; how much effort do you expect it will take; what seems challenging? DUE Jan 27.
- Reflection on bread making and molding. DUE Mar. 10.
- Mid-Term Participation and Presence Reflection. DUE Mar. 20.
- Final Reflection - how did you do? DUE Apr. 28.
- Please submit all entries (as a word doc) in Courseworks

50% Final Project

The Final Project is scaffolded throughout the semester to help you to successfully complete it:

- Topic submission - a paragraph on what you wish to explore for your final project. DUE Mar. 2.
- Topic Exploration - sources, ideas, plans, outline, hypotheses, next steps (lab time, supplies, etc?), anything similar currently in the Sandbox? DUE Mar. 27
 - 2-4 pages, double-spaced
 - bibliography with 10 sources, 5 of which are annotated
- Draft share submission. DUE Apr. 19.
- Final Project submission. DUE May 12 (May 9 for graduating seniors and MS/MA students).
- Please submit all work (**as a word doc, if appropriate**) in Courseworks

READINGS

Required to acquire (available at Book Culture, or via Abebooks.com, amazon.com, etc.):

- Cennino Cennini, *The Craftsman's Handbook, 'Il Libro dell'Arte'*, trans. by Daniel Thompson (New York: Dover, 1960).
- Samuel Quiccheberg, *The First Treatise on Museums. Samuel Quiccheberg's Inscriptiones 1565*, trans. Mark A. Meadow and Bruce Robertson (Getty Research Institute, 2013).

These following are useful as comparison artist/artisan writings (but not required):

- Theophilus, *The Various Arts. De Diversis Artibus*, ed. and trans. Hawthorne (Dover, 1980).
- Benvenuto Cellini, *Two Treatises*, trans. C. R. Ashbee (repr. 2006).
- Mary P. Merrifield, *Medieval and Renaissance Treatises on the Arts of Painting: Original Texts with English Translations* (Courier Dover Publications, 2012).
- Giorgio Vasari, *On Technique* (Dover, 1960).

- Karel van Mander, *The Lives of the illustrious Netherlandish and German painters, from the first edition of the Schilder-boeck* (Doornspijk: Davaco, 1994–1999).

Relevant Readings Folder (this folder contains hundreds of articles and book excerpts relevant to the themes of this course - if looking for something in particular, it is best to search)

SCHEDULE OVERVIEW (semester at-a-glance)

Week: Theme	Monday Date	Notes and Assignments
Week 1: Introduction FW513	Jan 17: First day of class	
Week 2: Get to know <i>Secrets of Craft and Nature</i> FW513	Jan 24: Scavenger hunt discussion, intro to assignments	<i>Fri Jan 27 course drop deadline.</i> Scavenger hunt DUE Friday, Jan 27: Participation and Presence Goals
Week 3: Reconstruction of Historical Techniques FW513	Jan 31: HCR presentations	DUE Monday, Jan 30: HCR presentation Receive sourdough starter
Week 4: Embodied Knowledge I FW513	Feb 7: Discussion of readings Look at breadmolding recipe	Begin baking bread
Week 5: Embodied Knowledge II FW513	Feb 14: Reading and final project discussion	Bread baking
Week 6: Molding and Casting Chandler 260	Feb 21: Casting into bread molds	<i>Tues Feb 21 withdrawal deadline. Last day to drop.</i> Bring bread molds to class
Week 7: Collecting Nature and Art FW513	Feb 28: Discussion of readings Talk about bread molding	<i>Mon March 6 midterm date.</i> DUE Thursday, Mar 2: Project Topics
Week 8: Final Project planning Butler 523	Mar 7: Meeting with librarian Final Projects Share	DUE Friday, Mar 10: Breadmolding narrative and reflection
Week 9: NO CLASS	Mar 14 - NO CLASS (academic holiday)	<i>Tues Mar 13 - Fri Mar 17 (university holiday)</i>
Week 10: Nature, Art, & Imitation FW513	Mar 21: Discussion of readings	DUE Monday, Mar 20: Midterm Reflection

		<i>Thurs Mar 23 last day to pass/fail.</i>
Week 11: Transforming Materials: Pigments and Paints (part I) FW513	Mar 28: Intro to pigments and paint	DUE Monday, Mar 27: Project Exploration
Week 12: Transforming Materials: Pigments and Paints (part II) Chandler 260	Apr 4: Lake making	
Week 13: Craft and Science FW513	Apr 11: Discussion of readings	
Week 14: Transforming Materials: Pigments and Paints (part III) Chandler 260	Apr 18: Painting pigments	DUE Wednesday, Apr 19: Final Project Draft Prepare pigment sample card
Week 15: Final Project Exchange FW513	Apr 25: Final Project Draft Exchange	DUE Tuesday, Apr 25: Read over and comment on drafts DUE Friday, Apr 28: Final Reflection
	May 2: NO CLASS Reading week	<i>Fri May 5 - Fri May 12 - FINALS</i>
Seniors and graduating MA students - DUE Tuesday, May 9: Final Projects by 11:59PM ET All others - DUE Friday, May 12: Final Projects by 11:59PM ET		

Week 1: January 17

Introduction

JANUARY 17: IN CLASS

10:10–10:50 Introduction to the Making and Knowing Project

- Look at [Secrets of Craft and Nature](#) Digital Critical Edition
- Look at the [M&K Sandbox](#)

10:50–11:20 Review syllabus and assignments

- SIGN UP FOR THE THREE HANDS-ON SESSIONS IN THE LAB (February 21, April 14, and April 18). There are 12 slots per session. If a session is full and you wish to switch to that time, it is your responsibility to find another student to switch with you.

11:20–12+ Lab Tour

Week 2: January 24

Get to know *Secrets of Craft and Nature*

REQUIRED READING/ACTIVITY

- SIGN UP FOR THE THREE HANDS-ON SESSIONS IN THE LAB (February 21, April 14, and April 18). There are 12 slots per session. If a session is full and you wish to switch to that time, it is your responsibility to find another student to switch with you.

Required Reading and Viewing:

- Pamela H. Smith, “Making the Edition,” In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project et al. (New York: Making and Knowing Project, 2020), https://edition640.makingandknowing.org/#/essays/ann_329_ie_19.
 - Be sure to watch the M&K lab videos embedded in the essay.
- Pamela H. Smith, “An Introduction to Ms. Fr. 640 and its Author-Practitioner.” In *Secrets of Craft and Nature in Renaissance France*, https://edition640.makingandknowing.org/#/essays/ann_300_ie_19.
- Colin Debuiche and Sarah Muñoz, “Ms. Fr. 640: The Toulouse Context,” translated by Philippe Barré and Christine Julliot de la Morandière, in *Secrets of Craft and Nature in Renaissance France*, https://edition640.makingandknowing.org/#/essays/ann_336_ie_19.

Required Activity:

Browse *Secrets of Craft and Nature*: <https://edition640.makingandknowing.org>.

- **Explore** each menu item
- **Complete** the following two scavenger hunts in the Edition
 - Pick three of the following terms, and use the search bar to search the manuscript: “mercury,” “bread,” “rat,” “dog,” “cuttlefish,” “saliva,” “garlic,” “blood,” “rosemary,” “milk,” “horse,” “earwax”
- Browse the results and select one of the occurrences in the manuscript that you find interesting. Please note the page number (e.g., fol. 76v) and URL (e.g., <https://edition640.makingandknowing.org/#/folios/76v/f/76v/tl>) from which you viewed the recipe or entry containing the term. **Keep notes for discussion.**
 - What is the recipe for? Is it a recipe at all? If not, how would you characterize it? How is the relevant object/material/animal used in the recipe? Was this use or the material surprising to you? How does this manuscript entry relate to a subject you are interested in? Could you follow the entry’s instructions to make this object/material?
 - Is there an essay associated with this entry in the manuscript (click on the beaker icon on the right of the entry)? Does it provide new insights or answer your questions about this recipe?
- Conduct another hunt by browsing the [List of Entries](#) and filtering the list by categories and/or tags. Select an entry or two that you find interesting. **Keep notes for discussion.**

JANUARY 24: IN CLASS

10:10–11:40 Make introductions. Get into groups of three. These are your

partners for today's discussion and be ready to talk about what you found in the *Secrets of Craft and Nature* scavenger hunt. Work together on the Historical Culinary Reconstruction (HCR) assignment for the rest of the week.

11:40–12 Permission/contribution forms

Historical Culinary Recipe (HCR) Introduction

- **Assignment Sheet: Historical Culinary Recipe Reconstruction** - start on this immediately - see below under Week 3. A copy of the presentation is due to Courseworks on Jan 30. Presentations will be in class on Jan 31.

FOLLOW UP: Week 2

- **Start immediately on the HCR with your partners.** **Assignment Sheet: Historical Culinary Recipe Reconstruction**
 - Make sure to do the reading/watching (at the top of the assignment sheet) before you start sourcing ingredients and cooking.
- Participation and Presence goal(s) assignment. Due Jan. 27

Week 3: January 31

Reconstruction of Historical Techniques

REQUIRED READING/ACTIVITY

- Monday, Jan 30: Upload your presentation (Powerpoint, etc.) of your HCR to Courseworks
 - Each group member should upload the same presentation in Courseworks
 - Your presentation on Jan 31 must be 10 minutes max.
 - Practice delivering the presentation as we must keep to time in class.
- You are responsible for sourcing and purchasing your own materials. If this presents any hardship for you, please speak to us about it before you buy anything. We may be able to reimburse you for -- or purchase for you -- some of the materials.

JANUARY 31: IN CLASS

10:10–11:40 Presentations of HCR process and results

11:40–12pm Commentary on the results (and consumption, if possible and safe to do)
Permission/contribution forms
Hand out sourdough starter

FOLLOW UP: Week 3

- **Due Mon Feb. 6: Reconstruction Thoughts** - **Add at least one comment/thought, etc.**
- **Bread making (for bread molds, due Feb 21):** Over the coming week, learn to make bread! Start as soon as possible. You will use this bread to prepare your bread molds for class on **Feb 21**. Familiarize yourself with the **Assignment Sheet: Bread Molding**.
- Start early enough that you can bake more than once—you will need to experiment (and you will want to eat some of it!)
- You will need to research the ingredients and process of making sixteenth-century bread.

- Remember to document your process: keep notes and reflections and take copious pictures as you learn to make bread. Tips on preparing for your reflection can be found in the Bread Molding assignment sheet.
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Week 4: February 7

Embodied Knowledge I

REQUIRED READING/ACTIVITY

Required Reading:

- Tillmann Taape, “The Body and the Senses in Ms. Fr. 640: Towards a ‘Material Sensorium,’” in *Secrets of Craft and Nature in Renaissance France*, http://edition640.makingandknowing.org/#/essays/ann_302_ie_19.
- Emma Le Pouésard, “Pain, Ostie, Rostie: Bread in Early Modern Europe,” in *Secrets of Craft and Nature in Renaissance France*, http://edition640.makingandknowing.org/#/essays/ann_046_fa_16.
- Raymond Tallis, “Grasping the Hand,” in *The Hand: A Philosophical Inquiry into Human Being* (Edinburgh: Edinburgh University Press, 2003), 21–43

FEBRUARY 7: IN CLASS

10:10–10:40: Discussion in groups of HCR reflections: **Reconstruction Thoughts**, Bread Molding in Fr. 640: [Fol. 140v](#), **Assignment Sheet: Bread Molding**, and class readings - reflect on your experiences of bread making (if you’ve started) or any other hands-on experience you have had in light of the readings.

10:45-11:30: Takeaways from group discussion

11:30-ish-12 Intro to Final Projects

- **Assignment Sheet: Final Projects**
- Explore the [Sandbox](#)
- Decide on groups (for those who plan to work in groups)

FOLLOW UP: Week 4

Today’s chalkboard has been added to the top of **Reconstruction Thoughts**

Due Feb 21: Breadmolding

- **Assignment Sheet: Bread Molding**
 - Keep baking bread!
 - Choose an object to press into the bread to create a breadmold.
 - Submit breadmaking narrative and reflection. Tips on preparing for your reflection can be found in the Bread Molding assignment sheet.

Final Projects

- Begin contemplating ideas for your Final Project
 - Take a look at **Assignment Sheet: Final Projects**
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Week 5: February 14

Embodied Knowledge II

REQUIRED READING/ACTIVITY

Required reading:

- Emma Le Pouésard, “Bread as Mediating Material: Tactile Memory and Touch in Ms. Fr. 640,” In *Secrets of Craft and Nature in Renaissance France*, https://edition640.makingandknowing.org/#/essays/ann_050_fa_16.
- Ann-Sophie Lehmann, “Wedging, Throwing, Dipping and Dragging – How Motions, Tools and Materials Make Art,” *Folded Stones*, eds. Barbara Baert and Trees de Mits (Institute for Practice-based Research in the Arts: Ghent 2009), pp. 41-60.

Optional further reading:

- Erin O’Connor, “Embodied knowledge in glassblowing: the experience of meaning and the struggle towards proficiency,” *Sociological Review* (2007): 126-141.
- Julian Thomas, “Phenomenology and Material Culture,” in *Handbook of Material Culture*, ed. Christopher Tilley et al. (Sage 2006), 43-59.
- Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill* (London and New York: Routledge, 2000), chs. 18-19 (pp. 339-361).

FEBRUARY 14: IN CLASS

10:10–10:30: In groups: Knowledge exchange on bread baking, ideas about bread molding, objects for bread molding

10:30–11:30: Whole class discussion of the readings.

- How did the readings help you to think about the experience of kneading, rising, and baking bread? Or vice versa?
- Be ready to talk about your failures and any interesting insights from your failures, as well as any other observations about the experiences.

11:30–12pm: Questions about assignments, bread baking, bread molds, final projects

FOLLOW UP: Week 5

- Continue developing ideas for your Final Project
- **Reminder for Feb 21:** Have your bread molds ready to be cast into
 - Assignment Sheet: Bread Molding - see, in particular:
 - The Frick Collection’s [Making a Medal Using the Sand Casting Process video](#).
 - Lim, Min. “To Shrink an Object: Bread Molding in Ms. Fr. 640.” http://edition640.makingandknowing.org/#/essays/ann_076_fa_18.
 - Fall 2018 student work - Resource: Breadmolding and Casting Slideshow (Note: for additional help and resources, try following the Field Note links in the essays above and in the Slideshow).
 - Choose objects to press into the bread to create a breadmold.
 - Prepare your breadmolds for Feb 21. Be ready to show your molds and to begin the casting process in class.

- WATCH presentation by Environmental Health & Safety on working safely in M&K's lab: [2021-10-11_EHS_Safety_PamelaSmith_LabTour.mp4](#) (start at 1:40)
 - Think about how you have been working at home, baking bread. Review your own workflows and safety procedures.
 - How to undertake hands-on work in a thoughtful and safe way?
 - Reflect on your reconstruction process and think about the materials, tools, and protocols you utilized.
 - Safety Resources
 - M&K has laboratory/studio safety protocols. What are the underlying principles? How do these compare to working at home?
 - Look at: [Workflow and Safety Protocol Template_NJR](#)
 - Lab attire and reminders:
 - Closed-toed shoes and long pants/skirt are required.
 - Hair should be pulled back and any dangly accessories (jewelry, scarves, etc.) should be tucked away.
 - There is no eating, drinking, or chewing gum inside the lab.
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Week 6: February 21

Molding and Casting

REQUIRED WATCHING/ACTIVITY

Reminder for Feb 21: Bring your bread molds to class, ready to be cast into.

- How do your bread molds and your cast objects show traces of your process (successes, failure)? How do we read them as objects?
- Remember to watch the safety video linked above
- Lab attire and reminders:
 - Closed-toed shoes and long pants/skirt are required.
 - Hair should be pulled back and any dangly accessories (jewelry, scarves, etc.) should be tucked away.
 - There is no eating, drinking, or chewing gum inside the lab.

February 21: IN CLASS - MEET IN CHANDLER 260

FOLLOW UP: Week 6

- Budget some time to possibly return to the Lab to work with your cast objects
- Make progress on your breadmaking narrative and reflection (due Mar. 10).
 - Do not hesitate to reach out to us, even to just talk or brainstorm!
- **Due Thursday, March 2, 9am:** Write a short description of your idea(s)/thoughts for your final project. This can be 5-10 sentences, a paragraph, or bullet points. Submit in Courseworks. Some ideas and more information for the assignment: [Assignment Sheet: Final Projects](#)
 - We send your ideas to Librarian Meredith Levin and she prepares a customized research session for us in Week 8.

Week 7: February 28

Collecting Nature and Art

REQUIRED READING/ACTIVITY

Required reading for discussion

- Samuel Quiccheberg, *The First Treatise on Museums. Samuel Quiccheberg's Inscriptiones 1565*, trans. Mark A. Meadow and Bruce Robertson (Getty Research Institute, 2013).
 - Required looking: [Kunsthistorisches Museum: Selected masterpieces](#)
- Colin Debuiche, "Ms. Fr. 640 and the Béthune Collection," translated by Christine Julliot de la Morandière and Philippe Barré, in *Secrets of Craft and Nature in Renaissance France*, https://edition640.makingandknowing.org/#/essays/ann_337_ie_19.

Optional further reading

- Pamela H. Smith, "Collecting Nature and Art: Artisans and Knowledge in the *Kunstammer*," in *Engaging With Nature: Essays on the Natural World in Medieval and Early Modern Europe*, ed. Barbara Hannawalt and Lisa Kiser (University of Notre Dame Press, 2008), 115-136.
- Martin Kemp, "'Wrought by No Artist's Hand': The Natural, the Artificial, the Exotic, and the Scientific in Some Artifacts from the Renaissance," *Reframing the Renaissance: Visual Culture in Europe and Latin America 1450–1650*, ed. Claire Farago (New Haven and London: Yale University Press, 1995), 177–96.

FEBRUARY 28: IN CLASS

10:10–10:30 Talk about breadmolding experience; questions about reflections? questions about Final Project submissions?

10:30–12pm Discussion of readings

FOLLOW UP: Week 7

- **Due Thursday, March 2, 9am:** Short description of your idea(s)/thoughts for your Final Project. Submit in Courseworks.
 - Write a short description of your idea(s)/thoughts for your final project. This can be 5-10 sentences, a paragraph, or bullet points. Submit in Courseworks. Some ideas and more information for the assignment: [Assignment Sheet: Final Projects](#)
 - We send your ideas to Librarian Meredith Levin and she prepares a customized research session for us next week.
- **Due Friday, March 10, 9am:** breadmaking narrative and reflection.

Week 8: March 7

Final Project Planning

MARCH 7: MEET IN BUTLER 523

10:10–11:30 Research methods with Librarian Meredith Levin (Humanities & History)
(Her prepared [Research Guides](#))

- Assignment Sheet: Final Projects

11:30–12pm Share ideas on Final Project topics with the class: all **Spring 2023 Final Project Ideas**

FOLLOW UP: Week 8

- **Due Friday, March 10, 9am:** reflection on breadmaking and molding assignment.
- **Due Monday, March 20, 9am:** Mid-Term Participation and Presence goal(s) reflection assignment.
- **Due Monday March 27, 9am:** Topic Exploration: sources, ideas, plans, outline, hypotheses, next steps (lab time, supplies, etc?), anything similar currently in the Sandbox?
 - 2-4 pages, double-spaced
 - bibliography with 10 sources, 5 of which are annotated
- → Begin researching your Final Project (Topic Exploration due Mar. 27):
 - Review Meredith's research guide for M&K:
<https://guides.library.columbia.edu/HIST-GU4962>
 - Also check out:
 - Online [workshops](#)
 - Ask a Librarian: <https://library.columbia.edu/services/askalibrarian.html>
 - Subject specialists:
<https://library.columbia.edu/about/staff/subject-specialists-by-subject.html>
 - Take advantage of self-paced instruction modules, "[From Books to Bytes: Navigating the Research Ecosystem](#)," created by the Libraries in partnership with the Center for Teaching and Learning. The online modules define the research cycle, provide students with practical strategies, and guide them through the vast resources available to them at Columbia.
 - Look at resources/help in the [Assignment Sheet: Final Projects](#)

Week 9: March 14

No Class (Spring Break)

Week 10: March 21

Nature, Art, and Imitation

REQUIRED READING/ACTIVITY

Required Reading:

- Selections of your choice from Cennino Cennini, *The Craftsman's Handbook*, 'Il Libro dell'Arte', trans. by Daniel Thompson (New York: Dover, 1960).
 - **Choose** your favorite couple of chapters and read for specific things, e.g. language, how instructions are given, materials and how they are transformed, etc., making note of what you find.
 - How does Cennini's book of recipes compare to Ms. Fr. 640? How does it compare to Quiccheberg's plan for a collection?
 - Can you find any of the materials in Ms. Fr. 640 (e.g., those you found in your scavenger hunt) in Cennini?
 - Compare Cennini's remarks on imitation to those in the following two readings, and be ready to discuss.
- **PLEASE NOTE:** this essay contains images and descriptions of preparing dead animals for taxidermy - it may be disturbing to some:
 - Divya Anantharaman and Pamela H. Smith. "[Animals Dried in an Oven](#)." In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, et al. 2020.
- Isabella Lores-Chavez. "[Imitating Raw Nature](#)." In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, et al. 2020.

MARCH 21: IN CLASS

10:10–11:30 Discussion of readings

11:30–12pm Final Project check-ins

FOLLOW UP: Week 10

- Continue research for your Final Project.
- **Due Monday, Mar. 27: Topic Exploration**

Week 11: March 28

Transforming Materials: Pigments and Paints I

REQUIRED READING/ACTIVITY

Required reading:

- Erma Hermens and Arie Wallert, "The Pekstok Papers, Lake Pigments, Prisons and Paint-Mills," in *Looking through Paintings: The Study of Painting Techniques and Materials in Support of Art Historical Research (Leids Kunsthistorisch Jaarboek XI)*, ed.

Erma Hermens (Baarn, The Netherlands: Uitgeverij de Prom, 1998), pp. 269-280 and 287-291.

- Search the English translation of *Secrets of Craft and Nature* for “lake,” “brazilwood,” “cochineal,” “platte,” “ronde” in Fr. 640
- **Look through** The making of lake pigments from a variety of materials
- Review these assignment sheets to prepare for the week’s activities:
 - Assignment Sheet: Cochineal Lake Making
 - Assignment Sheet: Painting pigments

Further Optional Reading

- Jo Kirby et al, “Chapter 5 - Recipes,” in *Natural Colorants for Dyeing and Lake Pigments: Practical Recipes and their Historical Sources* (Archetype Publications, London, 2014).
 - *Natural Colorants* Chapter 3 - Chemistry (chemistry of the lake process)
- Miruna Achim, “Cochineal.” In *New World Objects of Knowledge: A Cabinet of Curiosities*, edited by Mark Thurner, Juan Pimentel, and University of London. <https://doi.org/10.14296/2104.9781908857835>.
- Elena Phipps, *Cochineal_Red_the_art_history_of_a_color.pdf*
- Cochineal cultivation today.
- etymology of cochineal (OED):
 - **Forms:** 1500s–1700s **cochenille**, **cochinelle**, 1600s–1700s **cochineel**, **cochinele**, **cocheneal**, **cochenile**, 1600s– **cochineal**; also 1600s **cochenel(le)**, **cochanele**, **cochoneel**, **cochinella**, **cochonillio**; 1500s **cuchinilla**, 1600s **cuchineel**, **cuchinile**, **cucheneale**, **cuchanel**, **coucheneele**, **couchenille**; 1500s–1600s **cutchenele**, 1600s **cutcheneale**, **cutchineale**, **cutchyneale**, **cutchaneale**, **cutchanel(e)**, **cutchoneal(e)**; (1600s **quitchineel**, **chochineel**, **scutchenel**, etc.).
Etymology: < French *cochenille*, < Spanish *cochinilla* or Italian *cocciniglia*. The latter is evidently a derivative of Italian *coccino*, Latin *coccinum* scarlet robe or vesture, Italian *coccineo*, Latin *coccineus* scarlet-coloured, < *coccum* scarlet, ‘grain’, originally ‘berry’, in Italian *cocco* ‘graine to dye scarlet with’ (Florio). Spanish has also *cochinilla* ‘woodlouse’, diminutive of *cochina* ‘sow’, and it has been said that *cochinilla* ‘cochineal’ is the same word, from the resemblance of the dried cochineal insects to woodlice in the same state; but this is apparently a secondary association arising out of the fortuitous identity of the words.
- Look up “kermes” and “vermillion” in the OED and see the interrelated histories of these terms as well.

MAR.CH 28: IN CLASS

10:10–12pm Presentation and discussion

Presentation: Introduction to Pigments & Paints

Presentation: Cochineal Lake: History, Chemistry, and Preparation

Discussion of what you found in your search for “lake,” “brazilwood,” “cochineal,” “platte,” “ronde” in Fr. 640?

FOLLOW UP: Week 11

- Sign up for lab session next week
 - Begin drafting your Final Project; **draft due on Apr 19.**
 - **Meet with instructors to discuss your Final Project.**
 - Start preparation for the coming weeks of color making!
 - Assignment Sheet: Cochineal Lake Making
 - Assignment Sheet: Painting pigments
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Week 12: April 4 Transforming Materials: Pigments and Paints II

MEET IN CHANDLER 260

APRIL 4: IN CLASS

10:10–10:30 Making of Lake Pigment - Cochineal

10:30–12pm Lake making together in the Lab

- Assignment Sheet: Cochineal Lake Making
- Filter and wash pigment, then leave to dry

FOLLOW UP: Week 12

- Continue drafting your Final Project; **draft due on Apr 19. Reread the Assignment Sheet: Final Projects** for useful research resources and databases, formatting, and image sourcing ideas (for copyright-free images).
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Week 13: April 11 Craft and Science

REQUIRED READING/ACTIVITY

Required Reading

- William Eamon and Françoise Paheau, “The Accademia Segreta of Girolamo Ruscelli: A Sixteenth-Century Italian Scientific Society,” *Isis* 75, no. 2 (1984): 327-42.
- Tillmann Taape, “Experience Will Teach You!: Recording, Testing, Knowing, and the Language of Experience in Ms. Fr. 640.” In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, et al.
https://edition640.makingandknowing.org/#/essays/ann_303_ie_19.
- Vera Keller, “‘Everything Depends Upon the Trial (*Le tout gist à l’essay*)’: Four Manuscripts Between the Recipe and the Experimental Essay.” In *Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640*, edited by Making and Knowing Project, et al.,
https://edition640.makingandknowing.org/#/essays/ann_320_ie_19.

Further Optional Reading

- Pamela O. Long, *Artisan Practitioners and the Rise of the New Sciences, 1400-1600* (Oregon State UP, 2011), Intro. and ch. 1.
- Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago and London: The University of Chicago Press, 2005, repr. 2018), chs. 1-3.

APRIL 11: IN CLASS

10:30–12pm Discussion of Readings

FOLLOW UP: Week 13

- Continue drafting your Final Project; **draft due on Apr 19.**
- Review [Assignment Sheet: Painting pigments](#)
 - **Prepare Sample Card for pigment painting** (bring to class next week)

Week 14: April 18

Transforming Materials: Pigments and Paints III

MEET IN CHANDLER 260

APRIL 18: IN CLASS

10:10–10:30 Last steps of lake prep (scrape pigment from filter)

10:30–12pm Demo: Mulling and painting pigments

Painting out together

Waste management for oils

[Assignment Sheet: Painting pigments](#)

FOLLOW UP: Week 14

- **Due Wed Apr 19 at 11:59pm:** Submit a draft of your final project in Courseworks AS A WORD DOC (or its equivalent) for the April 25 Draft Exchange session.
 - If you are turning in a draft that cannot be submitted as a word doc document, please let us know.
- **Due Monday, April 24:** Read everyone's drafts (they can be found in this Google Drive folder) and leave at least one comment per draft, using Google Drive's commenting function. Be ready to participate in the Draft Exchange session with questions and thoughts for your fellow classmates.
- You have each been given kits and paper to continue painting at home this week.
- Review the [Assignment Sheet: Painting pigments](#). There is information here about:
 - Preparing your gum arabic solution
 - Preparing egg white and yolk for painting
 - Improvising a muller and mulling surface
 - Resources about techniques and materials (like videos)
- Information about the materials you have taken home: GU4962_material-list_sourcing

- You should fill in your sample card with the different types of pigments (organic-cochineal, earth - ochre) and different types of binding media (oil, gum, tempera - egg yolk, glair - egg white)
- What other types of trials can you do? Painting out a scene? Trying substrates other than paper? Mixing or layering pigments?
- On fol. 90r, Ms. Fr. 640 makes clear that artists foraged in their surroundings for “things already prepared in nature” that they could use in their work. What experiments can you do with foraged pigments? (See for inspiration: [Snyder’s summer 2021 “Foraging for Pigments”](#))
- **If you would like more paper**, we have left some in the blue cabinet outside the lab (where you normally put away your backpacks) so you can stop by and pick some up whenever is convenient for you

Week 15: April 25

Final Project Draft Exchange

APRIL 25: IN CLASS

10:10–10:30 Pigment painting show-and-tell (bring your pigment cards!)

10:30–12pm Final Project Draft Share

[The Matter of Mimesis](#)

FOLLOW UP: Week 15

- **Final Participation and Presence goal(s) reflection assignment. Due Apr. 28**
- Continue drafting your Final Project, incorporating feedback from final project exchange.
- **Due May 12:** Submit Final Project by 11:59pm in Courseworks
 - **NOTE TO GRADUATING seniors and MA/MS students in the final semester:** Final Projects must be submitted by **May 9, 11:59pm**
 - If your project cannot be easily submitted as an uploadable document, make sure you are in contact with us.
 - Review the [Assignment Sheet: Final Projects](#) for media information, permissions, and formatting.

Statement on COVID-19

We are all required to uphold the [Columbia Community Health Compact](#). Currently, that recommends that all students, staff, and faculty wear a suitable facemask inside. University policies and requirements may change during the semester.

Statement on Academic Integrity

The intellectual venture in which we are all engaged requires of faculty and students alike the highest level of personal and academic integrity. As members of an academic community, each

one of us bears the responsibility to participate in scholarly discourse and research in a manner characterized by intellectual honesty and scholarly integrity.

Scholarship, by its very nature, is an iterative process, with ideas and insights building one upon the other. Collaborative scholarship requires the study of other scholars' work, the free discussion of such work, and the explicit acknowledgement of those ideas in any work that inform our own. This exchange of ideas relies upon a mutual trust that sources, opinions, facts, and insights will be properly noted and carefully credited.

In practical terms, this means that, as students, you must be responsible for the full citations of others' ideas in all of your research papers and projects; you must be scrupulously honest when taking your examinations; you must always submit your own work and not that of another student, scholar, or internet agent.

Any breach of this intellectual responsibility is a breach of faith with the rest of our academic community. It undermines our shared intellectual culture, and it cannot be tolerated. Students failing to meet these responsibilities should anticipate being asked to leave Columbia.

Disability-Related Accommodations

In order to receive disability-related academic accommodations, students must first be registered with Disability Services (DS). More information on the DS registration process is available online at www.health.columbia.edu/ods. Faculty must be notified of registered students' accommodations before exam or other accommodations will be provided. Students who have (or think they may have) a disability are invited to contact Disability Services for a confidential discussion at (212) 854-2388 (Voice/TTY) or by email at disability@columbia.edu.