

**HIST G8906: Craft and Science: Making Objects in the Early Modern World**  
**Fall 2016**  
**Monday 10:10am-2:10pm**  
**Chandler 260**

**Co-Instructors:**

Prof. Pamela Smith

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This course studies the materials, techniques, settings, and meanings of skilled craft and artistic practices in the early modern period (1350-1750), in order to reflect upon a series of issues, including craft knowledge and artisanal epistemology; the intersections between craft and science; and questions of historical methodology and evidence in the reconstruction of historical experience. The course will be run as a “Laboratory Seminar,” with discussions of primary and secondary materials, as well as hands-on work in a laboratory. This course is one component of the Making and Knowing Project of the [Center for Science and Society](#) and more information on the Project can be found [here](#). Thus, in its first years, this course contributes to the collective production of a transcription, English translation, and critical edition of a late sixteenth-century manuscript in French, Ms. Fr. 640.

**Making and Knowing on Twitter:** You can follow the project on Twitter @makingknowing and tweet any photos from the laboratory (which we can then re-tweet).

Students are encouraged to take this course both semesters (or more), but can receive full credit only once. Different laboratory work and readings will be carried out each semester.

A course prerequisite is to complete laboratory safety training. No registration is required for safety training; you may simply show up and attend. Your attendance will be recorded and stored electronically in the RASCAL system, where you will be able to print a training certificate as proof of training.

**Course Organization**

This course will be conducted by discussion of readings and hands-on work in the laboratory. Readings will include primary sources and literature drawn from material culture studies, anthropology, history of science and technology, and art history, as well as an introduction to historical reconstruction and to BnF Ms. Fr. 640. Students will contribute to the research on Ms. Fr. 640 by finding and comparing contemporaneous primary sources and discussing their value for a better understanding of the recipes and methods described in Ms. Fr. 640. At the same time, a series of introductory lab sessions on making and materials will be conducted. The course will then turn to the reconstruction of the techniques in Ms. Fr. 640. Using a French transcription and

English translation, the laboratory portion of the course will focus each year on a single set of related techniques described in the manuscript. In 2014-15, the focus was on mold making and metalworking, including sand and plaster casting. In 2015-16, the focus was on color making, including dye and paint pigments, coloring woods and metals, varnishes, and artificial gem making. In 2016-17, we will examine a variety of contexts for the manuscript, including the regional history of Toulouse, elite collecting in the 16th century, and descriptions and recipes that have to do with “practical natural history” (such as catching and feeding of animals, silkworm cultivation, “anatomy,” taxidermy, and organic dyes made from plants), “practical perspective and optics” (including perspective construction for painters, experiments with mirrors, and observations about the production of visual effects by the application of varnishes, glass, and other materials), and medical recipes, as well as revisiting some of the recipes from previous years, for example, possible research will focus on *azur d’esmail*, ruby glass, drawing, life casting, tool making, and bread molding.

Work in the laboratory each semester will include visits by expert makers, who will participate in the seminar and lead demonstrations and experiments in the lab. These experts will come from conservation, studio art, or craft, and will have expertise in areas relevant to the manuscript.

**On May 23-25, 2017** (Tuesday-Thursday), an international meeting of scholars and expert practitioners (Working Group Meeting) will be held at Columbia in order to review the progress made on the project. Students from both semesters will be expected to present at this meeting.

### **Assignments and Evaluation**

#### **Discussion**

All students are expected to come prepared for discussion. **Discussion participation accounts for about 10% of the total grade.**

#### **Hands-on Assignments**

Students will keep field notes (in written, visual, or podcast form) on their experiences and experiments in the Class Wiki, documenting their experiments in reconstruction, as well as their methodological reflections on the uses of hands-on work and reconstruction as historical sources. They will upload their photos to the [Flickr photo repository](#).

Open lab times will be announced throughout the semester, but will generally be held Monday afternoons after class, Wednesdays, and Fridays. On average, students should expect to spend at least two additional hours in the lab per week. **The laboratory component of the course will be worth 30% of the grade.**

#### **Written assignments**

Students will contribute to the decipherment of the text of Ms. Fr. 640, and they will contribute annotations to the translation and critical edition of the manuscript. They will assist in maintaining and contributing to the course Wiki and Field Notes, and they will make every effort to take part in the final Working Group Meeting to be held in May 23-25.

Working in groups, students will contribute two annotation essays (750-3000 words) to the critical edition, similar to a catalog entry for an exhibition. These essays will make use of a whole range of visual and textual sources, and will integrate the students’ laboratory experiences into a written or visual presentation that makes an argument about what research (both textual and material) into the recipe revealed about process, materials, sixteenth-century culture and

society, or the identity of the author. One of the most important components of this assignment is the research students undertake on the relationship of recipes in Ms. Fr. 640 to other earlier and contemporaneous recipe collections. Because the annotations will be published in 2019 as part of the edition's critical commentary, they must be in publication-ready shape by the final due date. This is achieved by means of a series of annotation workshops towards the end of the semester. **The annotation assignment comprises 60% of the grade.**

**Student research essays resulting from this semester are contained in [\*Secrets of Craft and Nature in Renaissance France. A Digital Critical Edition and English Translation of BnF Ms. Fr. 640.\*](#)**

- [Black Sulfured Wax](#)
- [Bread as Mediating Material: Tactile Memory and Touch](#)
- [Buckram Sausage and Gunpowder Weapons](#)
- [Glassworking in Ms. Fr. 640](#)
- [Imitating Raw Nature](#)
- [Keeping Dry Flowers in the Same State all Year](#)
- [Pain, Ostie, Rostie: Bread in Early Modern Europe](#)
- [Spinnet Playing by Itself](#)
- [Smoke as Medicine](#)

### **Reading**

The following course books (only those marked **Required**, i.e., only 3 of the books listed below) are available at Book Culture and many of them are on reserve at Avery Library.

#### **These provide an introduction to collecting and objects:**

- **Required:** Samuel Quiccheberg, *The First Treatise on Museums. Samuel Quiccheberg's Inscriptiones 1565*, trans. Mark A. Meadow and Bruce Robertson (Getty Research Institute, 2013)
- Lorraine Daston and Katharine Park, *Wonders and the Order of Nature* (Zone, 1998)
- Horst Bredekamp, *The Lure of Antiquity and the Cult of the Machine* (1995)

#### **These provide an introduction to the likely locale of Ms. Fr. 640's compilation:**

- Robert Schneider, *Public Life in Toulouse* (Cornell, 1989).
- William Beik, *A Social and Cultural History of Early Modern France* (Cambridge, 2009)

#### **These provide an introduction to the history of the relationship between craft and science:**

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

#### **These are useful as comparison artist/artisan writings:**

- **Required:** Cennino Cennini, *The Craftsman's Handbook, 'Il Libro dell'Arte'*, trans. by Daniel Thompson (New York: Dover, 1960)
- 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, *The Lives of the Artists* (Paperback), Translators: Julia Conway Bondanella, Peter Bondanella (Oxford University Press, USA, 2008)

- 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)

**Other works relevant to this course:**

- Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill* (London and New York: Routledge, 2000)
- Robert Tarule, *The Artisan of Ipswich: Craftsmanship and Community in Colonial New England* (Johns Hopkins University Press, 2004)
- Pamela H. Smith, Amy R. W. Meyers, and Harold J. Cook (eds.), *Ways of Making and Knowing* (University of Michigan Press, 2014)
- Christy Anderson, Anne Dunlop, and Pamela H. Smith, *The Matter of Art: Materials, Practices, and Cultural Logics, c. 1250-1800*.

**Class Schedule**

Below you will find what to prepare for class in **the week before** the class meeting, and what to expect on **the day of** class. Please be sure to ask in advance if anything is not clear!

**Week 1: ART, CRAFT, AND SCIENCE**

**In preparation for September 12:**

**To watch:**

- Watch the [introduction to the manuscript and the project](#) (ca 1 hour)
- Watch "[Lions, Dragons, and other Beasts](#)" (ca. 1 hour)

**To read:**

**REQUIRED**

- Read the 2014 NSF grant description about the Making and Knowing Project, and the shorter 2016 Making and Knowing Project Description
- Pamela H. Smith, “In the Workshop of History: Making, Writing, and Meaning,” *West 86th: A Journal of Decorative Arts, Design History, and Material Culture*, vol. 19 (2012): 4-31.
- Pamela H. Smith and The Making and Knowing Project, “Historians in the Laboratory: Reconstruction of Renaissance Art and Technology in the Making and Knowing Project,” *Art History*, special issue on Art and Technology (2016) (research included in this article was carried out by the Making and Knowing Team; students from the 2014-15 Columbia University course, Hist G8906: Craft and Science: Making Objects in the Early Modern World; students in the University of Amsterdam M.A. in conservation and restoration of cultural heritage, metals specialization course; and students from the V&A/RCA PhD in History of Design).
- Donna Bilak, Jenny Boulboulé, Joel Klein, and Pamela H. Smith, “The Making and Knowing Project - Reflections, Methods, and New Directions,” in *New Directions in Making and Knowing*, a special issue guest edited by Smith of *West 86th: A Journal of Decorative Arts, Design History, and Material Culture*, 23.1 (2016): 35-55.

**RECOMMENDED**

- Pamela H. Smith and Tonny Beentjes, “Nature and Art, Making and Knowing: Reconstructing Sixteenth-Century Life Casting Techniques,” *Renaissance Quarterly*, 63 (2010): 28-179.

**To do:**

- Explore the Project’s Google Drive collaborative space
- Browse the [manuscript](#)
- Read the pdfs of both:
  - The diplomatic (i.e., verbatim) transcription

- The English translation
- Explore the general compilation of online sources for researching the manuscript
- Join the Wiki

### **What to expect in class on Monday, September 12:**

Bring your laptop to class

- 10:10-10:35 Introductions all around. The course in brief, expectations, skills, and your contribution to the project. Come with questions!
- 10:35-11:30 - Lecture on the Making and Knowing Project by P. Smith.
- 11:30-12:15: Navigating and reading BnF Ms. Fr. 640.
- 12:15-12:40: Break
- 12:40-1:15: Discussion of Home Culinary Reconstruction Assignment (division into groups). **Due Monday, September 19 in class.** And any further questions.
- 1:15-2pm: **Safety training** (Kathy Somers) and introduction to MSDS (search for “verdigris,” copper, vinegar on [Chemwatch](#) (must be connected to Columbia Network))
- Be sure to take home your copper, a jar, string/twine. Start your verdigris growing immediately. **Due October 3 in class.** Bring the result to class (the copper and growths in a ziplock bag) in Week 4 of the class (October 3).
- Review Lab Procedure Reminders

### **Week 2: RECONSTRUCTION**

This week we consider the problems raised by reconstructing past processes in the attempt to answer historical questions.

**Skill building:** Historical Culinary Recipe Reconstruction

#### **In preparation for Monday, September 19:**

You will want to start on the Historical Culinary Recipe Reconstruction (HCR) right away, by reading the assignment carefully, exploring and using the websites listed on the HCR assignment sheet to search for comparable recipes in contemporaneous sources, and doing the following reading **BEFORE** starting your reconstruction:

#### **Required Reading and Watching:**

- Ken Albala, “Cooking as Research Methodology: Experiments in Renaissance Cuisine,” *Renaissance Food from Rabelais to Shakespeare: Culinary Readings and Culinary Histories*, ed. Joan Fitzpatrick (Aldershot, UK: Ashgate, 2010), pp. 73–88.]  
See also Ken Albala’s blog on: <http://kenalbala.blogspot.nl/>
- Ad Stijnman, “Style and technique are inseparable: art technological sources and reconstructions,” *Art of the Past. Sources and Reconstructions. The proceedings of the First Symposium of the Art Technological Source Research Study Group*, ed. by Mark Clarke, Joyce H. Townsend, and Ad Stijnman (Amsterdam: Archetype, 2005): 1-8.
- Francisco Alonso-Almeida, “Genre conventions in English recipes, 1600-1800,” *Reading and Writing Recipe Books, 1550-1800*, Michelle DiMeo and Sara Pennell (Manchester: Manchester University Press, 2013), pp. 68-90.
- Syrup of Violets and Science: <http://youtu.be/pdEbMBe0aa8>
- Read over the HCR resource guide and the [CU Library Tool](#) compiled by Meredith Levin specially for this course.

For an example of an exemplary reconstruction experiment, see:

- Maartje Stols-Witlox, “Sizing layers for oil paintings...,” *Proceedings of the Second ATSR Symposium* (2008), pp. 148-163.

### **September 19, in class:**

We will meet in Fayerweather 513, where the groups will present on their HCR.

Bring the material results of your HCR. We will consume them, if safe!

- 10:10-11:30 - Student presentations (and consumption of the results)
- 11:30-12:15 - Introduction to field and lab notes with Dr. Joseph Ulichny, Chemistry, and Dr. Brian Boyd, Anthropology. Introduction to Ian Beilin, Subject Specialist, CU Libraries.
- 12:30-2:00 - Wiki practice and profiles; upload photos to Flickr; link to Wiki, upload ppt to Wiki as field notes for HCR exercise, etc.
- Hand out bread starter, and bread molding instructions.

### **WEEK 3: September 26. MS. FR. 640 IN CONTEXT - COLLECTING**

This week, we'll discuss one component of the intellectual and social context of Ms. Fr. 640 - collecting. We will have visitors from the University of Cambridge ERC Project on [Ingenuity](#), led by Prof. Alexander Marr, and the AHRC Project [Making Visible](#) led by Prof. Sachiko Kusukawa. They will participate in our discussion and activities during class and will help lead a symposium on September 27, 2-5pm on our collaborative projects that will raise questions about ingenuity, skill, craft, working with materials, and historical evidence, with a particular focus on methodological issues. Please attend as much of this symposium as you can.

**Skillbuilding:** Bread molding

### **In preparation for September 26:**

- Find the recipes for molding in bread in Ms. Fr. 640, and, making use of the starter you were given last week, perform a reconstruction of this recipe. You will need to research the ingredients and process of making sixteenth-century bread, so keep detailed field notes and take copious pictures as you perform the reconstruction. Think about the aims of the bread-molding recipes, and the significance and properties of the quotidian material, bread, as you work.
- **Read:** Rozemarijn Landsman, Jonah Rowen, “Sulfur and Additives,” Annotation, Fall 2014.
- Bring your bread molds into class ready for casting in wax and sulfur. Be prepared to give an account of your experience in interpreting and reconstructing the Ms. Fr. 640 recipes.

### **Required Reading:**

- Samuel Quiccheberg, *The First Treatise on Museums. Samuel Quiccheberg's Inscriptiones 1565*, trans. Mark A. Meadow and Bruce Robertson (Getty Research Institute, 2013).
- Alexander Marr et al., *Logodaedalus: Word Histories of Ingenuity in the Early Modern Period*, introduction.
- Neil Kenny, *The Palace of Secrets: Bérolalde de Verville and Renaissance conceptions of knowledge* (Oxford: Clarendon, 1991), pp. 1-136, 156-57, 208-251.
- Neil Kenny, *The Uses of Curiosity in Early Modern France and Germany* (Oxford, 2004), ebook through Clio (Oxford Scholarship Online), Introduction: Ebook pdf version: pp. 1-30, Part 3: Ebook pdf version: pp. 1-33, 46-51, 62-79, 132-39.

- 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.
- Paula Findlen, “Anatomy Theaters, Botanical Gardens, and Natural History Collections,” ch. 12 *The Cambridge History of Science*, eds. Katharine Park, Lorraine Daston, pp. 272-289. Please log into Clio and find the chapter here. Browse other chapters in this immensely useful reference work.
- Kathryn Kremnitzer and Siddhartha Shah, Imitation Gemstones, Ruby, Emerald, Annotation, Fall 2015.
- Alexandra Chessa, “Imitation Coral,” Annotation, Spring 2015.

**Search** the pdf of the entire text of Ms. Fr. 640 (French transcription or English translation). Can you identify any curiosities or wonders in Fr. 640? How does the author-practitioner use “curious” (*curieuse and curieusement*)? Would the objects that Fr. 640’s recipes aim to produce fit into Quiccheberg’s amphitheater? How do wonder, curiosity, and ingenuity intersect? How does the concept of ingenuity intersect with the recipes in Fr. 640?

### Optional Reading:

- Marr et al., “Cunning” (English section), *Logodeadalus*
- Pamela H. Smith, “Collecting Nature and Art: Artisans and Knowledge in the *Kunstkammer*,” 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.
- Lorraine Daston and Katharine Park, *Wonders and the Order of Nature* (Zone, 1998), chs. 1, 2, & 4. Ebook available on Clio.
- Horst Bredekamp, *The Lure of Antiquity and the Cult of the Machine* (1995), chs. “The Historical Chain” and “The Playfulness of Natural History,” 11–36, 63–80.

September 26, in class:

- 10:10-11:30 - Discussion of the readings
- 11:30-12:15 - Bread molding discussion. MSDS search for wax and sulfur. Discussion of safety protocol.
- 12:15- 12:40 - Break
- 12:40-2:00 - casting wax and sulfur into the bread molds

### WEEK 4 October 3. MS. FR. 640 IN CONTEXT - PLACE AND TIME

This week we will continue our exploration of the context of Ms. Fr. 640, learning more about the region of its probable compilation.

**Skillbuilding:** verdigris preparation and painting out. **Bring your verdigris to class! When carrying, separate the vinegar from the copper (use a ziplock bag).**

### In preparation for October 3:

#### Required Reading

- Robert Schneider, *Public Life in Toulouse* (Cornell, 1989), chs. 1-3, pp. 12-131
- William Beik, *A Social and Cultural History of Early Modern France* (Cambridge, 2009), Intro. & Chapters 1-4, pp. 1-133.
- Ray Carlson and Jordan Katz, “Molded Roses,” Annotation Fall 2014. See also Giuliana Chiostrini and Jef Palframan, “Molding a Rose,” Annotation Spring 2015.

Information on regional context is also contained in the following annotations:

- Sofia Gans, “Knowledge Exchange in Ms. Fr. 640,” Annotation Spring 2015.
- Giuliana Chiostrini, “Making Millas,” Annotation Spring 2015.
- Ann Sophie Barwich, “Sleight of Hand Tricks,” Annotation Spring 2016.
- Marianne Nuij, “Eau de Vie,” Amsterdam Annotation Spring 2015.

### **On verdigris, Required Reading:**

- look up “verdigris” in pigment resources, and in the pigment glossary
- the COLOUR ConTEXTdatabase
- Technical Art History Website, University of Delaware
- CAMEO: [Conservation & Art Materials Encyclopedia Online](#) (explore, and check “Materials database”)
- Cologne database of recipes
  - ◆ General landing page (not always functional—try your luck!)
  - ◆ Also see instructions here (in GD): Doris Oltrogge, “The Cologne database for painting materials and reconstructions,” *Art of the Past. Sources and Reconstructions. The proceedings of the First Symposium of the Art Technological Source Research Study Group*, ed. by Mark Clarke, Joyce H. Townsend, and Ad Stijnman (Amsterdam: Archetype, 2005): 9-15.

### **October 3, in class:**

- 10:10-12:00 - Discussion of readings
- 12-12:20 - Break
- 12:20-1:15 - Verdigris painting out. Record your work in field notes in the Wiki.
- 1:15-2 - Fire extinguisher training

### **Week 5: RECIPES AND SKILL**

#### **Meet at the Rare Book & Manuscript Library in Butler**

This week we’ll consider what a “recipe” is, and how Ms. Fr. 640 resembles other books of practice and recipe collections. Michelle DiMeo will visit the course to talk about recipes.

### **Preparation for October 10:**

#### **Required Reading:**

- Arie Wallert et al., “Still-Life Sources,” ch. 2.
- Elaine Leong, “Making Medicines in the Early Modern Household,” *Bulletin of the History of Medicine* 82(1) (2008): 145-168
- Sara Pennell “Perfecting Practice? Women, Manuscript Recipes and Knowledge in Early Modern England,” ed. by Victoria E. Burke and Jonathan Gibson, *Early Modern Women's Manuscript Writing: Selected Papers from the Trinity/Trent Colloquium* (Aldershot: Ashgate, 2008)
- William Eamon and Françoise Paheau, “The Accademia Segreta of Girolamo Ruscelli: A Sixteenth-Century Italian Scientific Society,” *Isis* 75, no.2 (1984): 327-42.
- Skim entire Cennino Cennini, *The Craftsman’s Handbook, Il Libro dell’Arte*, trans. by Daniel Thompson (New York: Dover, 1960)
- Ray Carlson and Jordan Katz, “Casting in a Box Mold,” Annotation Fall 2014.

#### **Optional Reading:**

- Vasari on Technique - ebook here.
- Vasari, *Lives of the Artists* (Paperback), Translators: Julia Conway Bondanella, Peter Bondanella (Oxford University Press, USA, 2008), esp. lives of Anonello da Messina, Jacopo della Quercia, Luca della Robbia, Leonardo da Vinci (accessible as PDF here)



- Van Mander, *Lives of the illustrious Netherlandish and German painters*, (Doornspijk: Davaco, 1994–1999), esp. Hans Vredeman de Vries, p. 318–26; Hendrik Goltzius, p. 385–406; Jacques de Gheyn, p. 433–38
- Van Mander, *The Foundation of the Noble, Free Art of Painting*, esp. Chapters I & II (full text accessible here)
- William Eamon, “How to Read a Book of Secrets,” ch. 1, *Secrets and Knowledge in Medicine and Science, 1500-1800*, ed. by Elaine Leong and Alisha Rankin (Ashgate, 2011): 23-46 (in the GD under “Leong and Rankin...”)
- Pamela Smith, “What is a Secret? Secrets and Craft Knowledge in Early Modern Europe,” *Secrets and Knowledge in Medicine and Science, 1500-1800*, ed. by Elaine Leong and Alisha Rankin (Ashgate, 2011): 47-66. (in GD as “Leong and Rankin...”)

**Search** Ms. Fr. 640 for the word “recepte.”

We shall examine several recipe books in the Rare Book room in Butler library. In preparation for this class, check out the [CU Library Tool](#) (available on the wiki) that Meredith Levin, Western European Humanities Librarian put together for us on recipes. Her colleague, Ian Beilin, will be present at the session and can answer questions.

- Alessio Piemontese, *Book of Secrets* (1555); various English versions on EEBO; French versions on Gallica; BEFORE 1600. (For English: Search for Ruscelli, Girolamo, *The secretes of the reuerende Maister Alexis of Piemount Containyng excellent remedies against diuers diseases, woundes, and other accidents, with the manner to make distillations, parfumes, confitures, dynges, colours, fusions and meltynges. ... Translated out of Frenche into Englishe, by Wylliam Warde* (1558).
- Hugh Platt, *The Jewell House of Art and Nature: Containing divers rare and profitable Inventions, together with sundry new experimentes in the Art of Husbandry, Distillation, and Molding* (London, 1594).

we’ll also look at the following works at the RBML:

<p>re: fol. 2r  <a href="#">Polydori Virgilio Vrbinatis De rerum inventoribus libri octo</a>            B913 V583            Vergil, Polydore, 1470?-1555            Romae : Ex officina Bartholomaei Grassi, 1585.</p> <p>re: 170v_a3            B580 D661            Dodoens, Rembert, 1517-1585  <a href="#">Remberti Dodoæni ... Stirpium historiae pemptades sex, sive libri XXX</a>            Antverpiæ, Ex officina C. Plantini, 1583.</p> <p>SELIGMAN 1603F Se68  <a href="#">Serres, Olivier de, 1539-1619.</a>            Le theatre d'agriculture et mesnage</p>	<p>re: fol. 35v_1            R126.D7 M42 1563g            Mattioli, Pietro Andrea, 1501-1577  <a href="#">Petri Andreae Matthioli Senensis ... Commentarii denuo aucti in libros sex Pedacii Dioscoridis Anazarbei De medica materia</a>            Lugduni : Apud Gabrielem Coterium, 1563</p> <p>SELIGMAN 1554F Es86  <a href="#">Estienne, Charles, 1504-approximately 1564.</a>  <a href="#">Praedium rusticum</a>            (Lutetiae, : Apud Carolum Stephanum typographu[m] regium., 1554..)</p>
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des champs / d'Oliuier de Serres, seigneur du Pradel. Seconde ed. / reueuë et augmentee par l'auteur. (A Paris : Ches Abr. Saugrain ..., 1603.)	
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**In class on October 10:**

- 10:10-12:00 - **Meet at the Rare Book & Manuscript Library in Butler**, 6th Fl. East. Consuelo Dutschke, Curator of Medieval and Renaissance Manuscripts, RBML
- 12:00-12:30 - Break, return to lab
- 12:30-2:00 - Dr. Michelle DiMeo delivers a lecture and leads a discussion on recipes.

**Week 6: NATURAL HISTORY AND PRESERVATION OF NATURAL THINGS**

This week, we will consider “practical or vernacular natural history,” especially in connection with the preservation of natural things--animals, fruits, and flowers. We will have an early modern taxidermy demonstration of fol. 130r by Divya Anantharaman, Taxidermist in Residence at the Morbid Anatomy Museum, and Owner of Friends Forever Taxidermy, and a short introduction to herbaria by Alix Cooper, Professor of History, SUNY, Stonybrook, examining fol. 120v-121r on the preservation of flowers and fruits.

**In preparation for October 17:**

- A short history of taxidermy suggested by Divya Anantharaman
- watch the video “[Death and Taxidermy](#)” created by our collaborators in Philadelphia at the Chemical Heritage Foundation
- Harold Cook, “The Preservation of Specimens and the Takeoff in Anatomical Knowledge in the Early Modern Period,” *Ways of Making and Knowing: The Material Culture of Empirical Knowledge* ed. Smith, Meyers, Cook (UMichPr, 2015), 302-329.
- Florike Egmond. “Apothecaries as experts and brokers in the sixteenth-century network of the naturalist Carolus Clusius,” *History of Universities*, vol. 23.2 (OUP, 2008): 59-91.
- Sophie Pitman, “Black color for dyeing,” Annotation Spring 2016.
- Emilie Foyer, Gold without Gold on Silver, Annotation Fall 2015.
- Sanne Berbers, “Trees and Turpentine,” Amsterdam Annotation, Spring 2016.
- Hanneke Kramer, “Silk Cultivation,” Amsterdam Annotation, Spring 2016.
- Claire Molgat Laurin, “Alun,” Amsterdam Annotation, Spring 2016.
- Sepha Wouda, “Spike lavender,” Amsterdam Annotation, Spring 2016.
- Marjolein Hupkes, “Essential Oils,” Amsterdam Annotation, Spring 2016.

**Search** the manuscript for information on animals. Make a list of the entries you find.

**Primary sources in natural history/botany:**

- <http://www.botanicus.org/browse>
- <https://www.nps.gov/rowi/learn/historyculture/colonial-kitchen-garden.htm>

**In class on October 17:**

- 10:10-12:00 - Lecture/discussion led by Divya Anantharaman and Alix Cooper
- 12:00 - Break
- 12:25-2:00 - Taxidermy demonstration. Record the work in your field notes in the Wiki.

**Please note:** Next week, we will discuss your proposed annotations, so please start thinking about annotation ideas. Begin thinking about the historical question your annotation will answer, begin compiling a materials list for experiments, and start developing a protocol for experimentation on your recipe(s). Begin to identify the recipes that your group will annotate in BnF Ms. Fr. 640.

## **Week 7: ANNOTATIONS [MEETING IN FAYERWEATHER 513!!]**

### **In preparation for October 24:**

In preparation for this discussion please make a page in the Field Notes File on the Wiki entitled “Annotation Plans.” Eventually this page should include the following elements, but for class on Monday, please just do as much of the following list as possible (e.g., you will not be expected to have a safety protocol at this point)

1. Names your group of 2
2. Describes your annotation plans (2 annotations)
3. Lists the recipes from MS Fr. 640 (and any other source) that you have identified so far (include full recipes if practical)
4. Lays out a schematic plan for the historical, object-based, and hands-on research that will shed light on these recipes.
5. List of materials you expect to need (are they in the lab inventory? See the Materials and Sourcing Reminders) where you will source them, and safety considerations.
6. Eventually, before you start experiments, you will determine whether you need a safety protocol, and you will formulate one based on the Safety and Workflow template. Your document should describe your workflow, and what safety measures you will need to take. Upload it into the folder labeled Safety - Workflow and Protocol. Your file in this folder should be linked to in your Wiki field notes.

### **In class, October 24:**

- Short reports on prospective annotations
- Intro to writing your annotation in Google docs
- Intro to using Artstor and online image resources
- Begin annotation research
- Prep for Madder Lake, and color change in materials

### **RED (Madder) LAKE MAKING:**

- Sign up for two sessions in the lab schedule, preferably for two consecutive days. As possible, the first session should be 2 hours, and the second for 1 hour.
- We will be making lake pigment from madder, following the recipe and procedures from Kirby et. al *Natural Colorants for Dyeing and Lake Pigments*
- Lake - An pigment prepared by precipitation of a dye on a powdered, inorganic substrate
- Please see Lakes in Student Files, including
  - *Natural Colorants* Chapter 5 - Recipes
  - *Natural Colorants* Chapter 3 - Chemistry (chemistry of the lake process)
  - Naomi’s powerpoint of the procedure
- Assignment notes:
  - Recipe and procedure (and timing information. We are tripling the original recipe)
  - Calculations (breakdown of materials needed, quantities)

## **Week 8: MEDICINE AND MATERIALS**

This week the class will explore the medical worldview in early modern Europe, and think about the place of materials in it.

**Skillbuilding:** Colors and Materials: Making red lake

### **In preparation for October 31:**

#### **Required Reading**

- Michael W. Cole, "Cellini's Blood," *The Art Bulletin* 81.2 (1999): 215–35.
- John Henry, "Doctors and healers: popular culture and the medical profession," *Science, culture and popular belief in Renaissance Europe*, ed. by Stephen Pumphrey, Paolo L. Rossi and Maurice Slawinski, 1991, pp. 191-221.
- Michael Stolberg, "You Have No Good Blood in Your Body. Oral Communication in Sixteenth-Century Physicians' Medical Practice," *Medical History* 59.1 (Jan 2015): 63-82.
- Cleo Nisse, *Painting Skin and Shadows a destrempe*, Annotation Spring 2016.
- Robin Reich, *Dragon's Blood*, Annotation Spring 2016.
- Read the medical recipes in Ms. Fr. 640 listed here.

#### **Optional Reading:**

- Mary Lindemann, "Sickness and Health" and "Practice," *Medicine and Society in Early Modern Europe*. (Cambridge UP, 1999): 8-36 and 193-230.
- Ulinka Rublack, "Matter in the Material Renaissance," *Past and Present*, 219 (May 2013): 41-85.
- Karin Leonhard, "Pictura's fertile field: Otto Marseus van Schrieck and the Genre of Sottobosco Painting," *Simiolus. Netherlands Quarterly for the History of Art* 34 (2 2009/2010)
- All Amsterdam Annotations on Dragon's blood from Spring 2016
  - ◆ M. Groeneveld, The application of dragon's blood on metal
  - ◆ Ingeborg Kroon, The Role of Dragon's Blood in Falsifying
  - ◆ Elisabeth Kuiper, A research of the use of dragon's blood

### **October 31, in class:**

- 10:10 - Michael Stolberg lectures on early modern medicine.
- 12:00-12:25 - break
- 12:25-2:00 - Colors: Painting out madder lake.

### **Week 9: UNIVERSITY HOLIDAY November 7**

- Over the break make sure your annotation plans are finalized, with materials lists finalized and sources for materials identified, and your safety protocol written. Be as ready as possible to implement your experiments beginning on November 14.

### **Week 10: TAXIDERMY II AND ANNOTATION RESEARCH**

#### **In preparation for November 14:**

- Read the description of a forthcoming book on animal skins in medieval bestiaries
- watch the video "[Death and Taxidermy](#)" created by our collaborators in Philadelphia at the Chemical Heritage Foundation
- Read fols. 48r and 157v [see Reading Questions page above]

#### **In class on November 14:**

- 10:10-12:15 - Divya finishes taxidermy demonstration
- 12:15-2:10 - Reports on finalized annotation plans. Start your research and/or experiments

## **Week 11: EMBODIED KNOWLEDGE**

### **Preparation for November 21:**

#### **Required Reading:**

- Raymond Tallis, *The Hand: A Philosophical Inquiry into Human Being*, (Edinburgh: Edinburgh University Press, 2003), Ch. 1.
- Julian Thomas, "Phenomenology and Material Culture," in *Handbook of Material Culture*, ed. Christopher Tilley et al. (Sage 2006), 43-59.
- 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 Reading:**

- Tim Ingold, *The Perception of the Environment: Essays in Livelihood, Dwelling and Skill*, (London and New York: Routledge, 2000), Ch. 18-19 (pp. 339-361).
- Erin O'Connor, "Embodied knowledge in glassblowing: the experience of meaning and the struggle towards proficiency," *Sociological Review* (2007): 126-141.

### **In class, November 21:**

- Discussion of readings
- Work on annotation experiments

## **Week 12: CRAFT AND SCIENCE**

### **Preparation for November 28:**

#### **\* First draft of annotations due this week**

#### **Required Reading:**

- Pamela O. Long, *Artisan Practitioners and the Rise of the New Sciences, 1400-1600* (Oregon State UP, 2011), Intro-ch. 2 (p. 1 - 62)
- Pamela H. Smith, *The Body of the Artisan: Art and Experience in the Scientific Revolution* (Chicago and London: The University of Chicago Press, 2005), chs. 1-3.

### **In class, November 28:**

- Discussion of Readings
- Discussion of Annotations
- Annotation Research

**December 2:** Annotation first drafts due today by midnight. All class members read all annotations in order to discuss them.

## **Week 13: Annotation Workshop**

**December 5:** ALL STUDENTS READ ALL ANNOTATIONS AND COME WITH QUESTIONS AND SUGGESTIONS.

## **Week 14: Lab Work**

**December 12:** Further lab and writing work on annotations.

**December 16:** Annotation second drafts due today by 5pm. All class members read all annotations in order to discuss them.

## **Week 15: Annotation Workshop**

**December 19:** ALL STUDENTS READ ALL ANNOTATIONS AND COME WITH QUESTIONS AND SUGGESTIONS. Further lab and writing work on annotations.

**FINAL ANNOTATIONS DUE ON December 22 by 9pm.**

**May 23-25, 2017 - Working Group Meeting**, attendance required, if at all possible.

**Four questions to consider in working with objects and materials:**

1. **Materials:** What material(s) make up your object? What are that material's properties? Where was it sourced? What determined its quality? How is the material described today (scientific analysis, material safety description - MSDS sheet)? How was the material described in written sources of the time (e.g., "unctuous," composed of water and earth, etc)? In addition to "workability," properties might also include the availability of materials in certain locales (by virtue of natural morphology or of trading patterns). How was knowledge of materials transmitted and disseminated (orally, by group working conditions, in writing, by templates)?
2. **Technology:** What tools, instruments and techniques were used for the transformation of your material in different places at different moments? How did that technology move and change over time? What were the consequences of these changes?
3. **Performance:** How did a specific conjunction of materials and technologies give rise to certain practices of making? In what ways did they constrain makers or require know-how? How did makers work against these limits (for example by manipulating the materials to vary their properties)? What were the circumstances for the display of skill: did makers change their practices when working in different places or when being watched by particular audiences? What were regarded as the signs of virtuosity, and how did these vary at different places at different moments? What was the role of the individual maker as opposed to the collaborative team? How does an object generate a "personality" or "sensitivity" for the person or workshop that produced it? How did new technologies change bodily experiences and gave rise to specific forms of practical expertise? How do embodied practices vary through time? Under which conditions might our bodily experience when reconstructing a pre-modern experiment be comparable to what practitioners have experienced in the past?
4. **The system of the arts:** What were the social structures that supported certain forms of production and consumption (e.g., associations such as guilds, workshops, manufactories)? How were practices of making limited by the law? Reshaped by ambition? What practices of making were interdependent? Which were siblings ("sister arts")? What was the relationship between making and status? How was the meaning of an object made manifest by its use, which could occur in rituals, through written treatises, or through daily use of the object?"

**Two further issues to consider throughout:**

**Evidence:** How do we know what a thing was made of and how it was made? What do texts tell us, what can we learn directly from objects or from present-day practices? How does one kind of evidence affect the way we understand another? What is the status as historical evidence of the emergent knowledge produced by reconstructions?

**Historiography:** How have historians treated these materials and their transformation? What kinds of narratives have historians constructed around and about materials and processes that give them meaning (whether bound up with professional and national narratives, with issues of identity or of rationality, or something else)? How have historians of science reflected on experimental reconstructions as a tool to recreate historical experience?