

Course: AS 389.315, **Ancient Color: The Technologies and Meanings of Color in Antiquity**
Cross Listings: AS Program in Museums and Society, AS Archaeology, AS Classics, AS History, AS History of Art, AS Near Eastern Studies
Class meetings: Monday 1:30 to 4pm, Gilman 150
Instructor: Sanchita Balachandran (she/her/hers)
Email: Sanchita@jhu.edu
Office hours: Immediately after class meetings and by appointment
Teaching Assistant: Jennifer Mikes

Land Acknowledgement Statement

Johns Hopkins University does not currently have an official land acknowledgement statement. My own land acknowledgement statement is a work in progress as I try to listen to and learn from Native and Indigenous peoples. As a settler on this land who is also a museum worker, my own commitment is to ensure that ancestral remains and ancestral items can be cared for, returned and repatriated as desired by their own peoples.

Scholars Elisa Sobo, Michael C. Lambert and Valerie L. Lambert [have drawn attention to the ways that land acknowledgements](#) “relegate Indigenous peoples to a mythic past and fail to acknowledge that they owned the land”; how “plans are never articulated to give the land back”; deny the past and ongoing trauma of Indigenous peoples, and undermine Indigenous sovereignty. They state, “land acknowledgments are not harmful, we believe, if they are done in a way that is respectful of the Indigenous nations who claim the land, accurately tell the story of how the land passed from Indigenous to non-Indigenous control, and chart a path forward for redressing the harm inflicted through the process of land dispossession.”

I am grateful to Peggy Mainor of the [Multicultural Initiative for Community Advancement](#) (MICA) Group for generously crafting the following statement and bringing our awareness to the long histories, ongoing presence, and futures of Indigenous peoples in this place now called Baltimore:

We gather today on the lands of the Indigenous peoples of Turtle Island, now known as North America. The history of the Native people of the Upper Chesapeake Bay dates back 12,000 years. Our university stands on the traditional lands of the Susquehannock people, who lived in this region until 1652 when they were forced by the Maryland colonial government to cede their homeland and resettle at a fort on the banks of the Potomac River. In 1675, they were forced north to Conestoga, Pennsylvania by militia forces. There, the remaining members of the Susquehannock people were killed by the “Paxton Mob” in 1763. Although the Susquehannock Tribe no longer exists, we acknowledge their ongoing presence here. We also acknowledge that this place is one of gathering and stewardship of many Native peoples including the Piscataway and Accohannock Tribes, the Nanticokes of the Eastern Shore, and vibrant communities of Lumbees and Cherokees, who migrated to Maryland from North Carolina.

Health and Accessibility Protocols

We are **still** working in the middle of a COVID pandemic and now are confronting monkeypox, all while navigating a significant increase in mental health crises. This is a lot. It is my priority to support your physical and mental health as well as your learning, and to do so safely. We will be [following the JHU guidelines](#) (and being aware that these will change as the situation changes), and I invite you to do what feels comfortable for you. I will continue masking in our classroom because that feels most comfortable for me; please do what you find allows you to concentrate on our work in the classroom. However, masking and occasionally meeting online makes it even harder to know how people are doing, so please be in touch with me to let me know if there is

anything you need, or if I can help find you the support you need. If you are struggling with anxiety, stress, depression, or other mental health related concerns, please consider visiting the [JHU Counseling Center](#) at 3003 North Charles Street in Suite S-200 or call them at 410-516-8278.

If you are feeling ill at all, please stay home and rest—the health of everyone in the classroom depends on you making a good decision. If you feel well enough to join us via Zoom, I can easily arrange this or record the lecture content so that you can watch it when you are feeling better. All it takes is an email—even if you send it just before class, it's fine!

If you will need to miss class for any reason, please let me know by email as soon as possible. This gives me the chance to record my lecture and post it so that you can have access to our classwork if you are not able to be in class.

If you need any accommodations in order to feel supported in our class, please be in touch so we can talk through what works best for you. Additionally, I encourage you to ask for the assistance of Student Disability Services, at (410) 516-4720, or studentdisabilityservices@jhu.edu for additional support.

Course Description and Learning Goals

What role did the colorful surfaces of sculptures, spaces and textiles play in the ancient world? We examine historical texts and recent scholarly and scientific publications on the technologies and meanings of color in antiquity, and use imaging and analytical techniques to study polychromed objects from the Johns Hopkins Archaeological Museum. Our aim is to discover color in their ancient world through intentionally interdisciplinary and sensory ways.

The main learning goals for this class are:

- Learn to identify materials and fabrication technologies for ancient objects, especially as related to colored surfaces.
- Introduce techniques of scientific analysis available for the study of archaeological materials, and utilize in-house non-destructive examination tools to study objects.
- Analyze observed physical characteristics on ancient objects in the context of material published in the archaeological, art historical and scientific literatures.
- Prepare and present documentation of evidence gathered from physical examination techniques and relevant literatures.

A few attunements:

I use the term “ancient” quite broadly in this course, and while we will encounter work related to the “world,” I am going to draw on my own interest in the ancient Mediterranean region which also fits with the strengths of the Archaeological Museum’s collection and our project this semester. We’re only going to be able to look at a tiny sliver of all of the amazing work on color in the ancient world—we’re limited by time (13 short weeks!), our access to works in English, and of course what is left in the archaeological and historical record (much of which is from elite contexts rather than what might have been experienced by non-elite people). We’ll be thinking mostly about applied color, i.e., color put on surfaces, but this is just a glimpse into the multicolored ancient world; it’s way more complicated and interesting than we can grasp in one semester.

We’ll be learning to look at ancient objects at the same time, literally trying to see the ancient color left on their surfaces, and we’ll do some hands-on experimentation as well. Some people find this variation and interdisciplinarity rather disorienting, to which I say, YES. Because the work of unseeing color in the way that we’re used to is crucial to our goal of trying to see color in ways that ancient people might have recognized. I

will help you along the way as you learn to navigate all of these different approaches, but I'm going to need you all in on this: so commit to being confused, lost, frustrated, but also kind of (I hope) exhilarated.

So here's our course mindset:

- Be curious and humble.
- Be willing to be confused and not know what you are looking at. Openness to different interpretations is crucial.
- Be ready to work collaboratively and in communication with people who have different skills and disciplinary knowledge.
- Recognize that you might not get a "final answer" but that the process of learning to ask new questions is incredibly valuable.
- Have gratitude and respect for the people and makers of the past.
- Remember that the instructor and students are learning together.

We will be examining ancient objects that are from funerary contexts, and a significant amount of the material we will encounter from our museum collection and even in our readings may come from funerary contexts, i.e., the burials of ancient people. Please know that you will not be shown any skeletal or soft tissue human remains in the museum. However, we will be examining Roman Egyptian plaster heads that were part of coffins for ancient people. If you prefer not to work with this material, please let me know. It is perfectly human and understandable to be concerned about the normalization of people's burial items as "things" open to our study, and museums in general have a long and disturbing colonial history of doing so. Here at the Archaeological Museum, we are trying to confront this past history through an ongoing project called ["Excavating the History of the Archaeological Museum: Racism and Repair in the Modern Academy"](#) and we are taking care to always remember that the items we have the privilege to be with were and are the items of ancient people.

Classroom and Museum Environment and Policies:

Our classroom is a space for rigorous, thoughtful and respectful discussion and debate. We agree to communicate our ideas clearly, listen patiently and disagree constructively. We agree to work from a place of kindness and generosity with each other. Our class is built on collaborative work, and while this is always challenging, I see this as an opportunity to get more comfortable with a lifelong practice of working intentionally as co-creators. If you ever have concerns about difficult group dynamics, harassment, discrimination, or any unequal treatment, please talk to me; reporting will never impact your grade.

The strength of the university depends on academic and personal integrity. In this course, you are expected to be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

When we meet in the Archaeological Museum, it will be in the main museum space which is a [bit of a fishbowl](#). It is a public space so people may be in and out of it as we hold class; we have to work with a more ad hoc computer monitor screen set up; and masking/Zoom make it more difficult to hear each other—hopefully this will work, but we will evaluate this together. If something is not working or you need additional support, please let me know what I can do to make the class conditions easier for you to participate.

We have a series of protocols in place to ensure that you have an exciting learning experience in the museum space AND that museum collections are treated with respect and care. This has never happened in my 12 years of teaching here, but still I want to say that anyone seen willfully mishandling objects or treating them inappropriately will have the privilege of working with them revoked.

- An attitude of respect for the items we work with is non-negotiable. Come prepared to work with focus and care. No rushing or distractions when ancient objects are present.
- Food, drink and gum are not allowed in the museum and should be disposed of as far from the museum space as possible. Please put bags and coats in the cubbies provided.
- Take notes with pencil on paper. There are typically no digital devices allowed in the classroom; this includes laptops, Ipads, tablets, cell phones, etc., unless we are meeting someone on Zoom or we've had a conversation about specific instances in which this is appropriate. We have such a short time together; please don't squander it with email, Instagram, or online shopping. It's also rude. Do this on your own time or during our class break.

Speakers:

We have several sessions with guest speakers, some of whom will be in person and others on Zoom. We'll discuss logistics about these meetings as we go.

Course Requirements

Class structure:

Each class meeting is loosely structured to include these components: brief quiz, student-led class discussion, 10-minute break, and lecture/guest speaker and hands-on work with museum objects. You are expected to attend every class with all readings for that day completed. Readings will be available through Canvas, direct link or as sent via email. I will also share a "how to read" guide for our class so that you have a sense of the kinds of things I'd like you to pay attention to. Come prepared to discuss the class readings.

Quizzes:

The quiz will test you on basic material introduced in the reading due for that day. Each quiz will have approximately 5 fill-in-the-blank or short answer questions. The quizzes may also include hands-on examination of objects or testing you on the use of museum equipment. I will drop your 2 lowest-scoring quizzes when calculating your final grade.

Class Discussion and "Color Experiment":

You'll be leading class discussions (in small groups)—sign ups and guidelines to be circulated during the second week. On the week you lead discussion, you will set our class a "color experiment"—select a color for us to look for throughout the week and then discuss in class. We'll track our "color experiments" on Jamboard. More on this in class.

Group projects:

I know, groan, more group work. But seriously, you need a group for this one. You will—in groups of 3—be assigned a Roman Egyptian polychromed plaster portraits as the focus of your final projects. Instead of this being something that just stays in class, we will be contributing to an international database called the [Ancient Panel Paintings: Examination, Analysis and Research](#) (APPEAR) project and updating work by scholars at the British Museum from 1995 about these same objects. We will also be producing content for the Archaeological Museum's website and online catalog. So yeah, you'll need colleagues. All this documentation will be uploaded to JHOneDrive, with each team assigned its own object specific folder.

We will be doing extensive physical examination (stereomicroscopy, multi-band imaging, x-ray fluorescence) of these items over the course of the semester. Some of this work has to happen outside of class meetings so that we can work with ancient objects and imaging and analytical equipment safely. Please expect to schedule at least 2 two-hour sessions outside of class time with the instructor and our teaching assistant Jennifer Mikes.

Your grade will be determined according to the following criteria:

Class participation	10%
Quizzes (lowest 2 quizzes dropped)	30%
Leading class discussion/color experiment	15%
Object examination assignment	30%
<ul style="list-style-type: none"> • Initial examination notes and questions • First draft • Final draft • Labeled images • Website text 	
Object examination presentation	15%
<ul style="list-style-type: none"> • 7-minute class presentation • Corrected and uploaded Powerpoint 	

An “A” is awarded for exceptional performance in class. Simply completing the assignments as required will result in a “B” grade. In general, grades are calculated based on the following: A=95 and above; A-=92 and above; B+=89 and above; B=85 and above, and so on. Typically, I do not accept late work; late work receives a “0.” Please let me know if you are having any trouble completing the work or have concerns; we can come up with workable solutions together.

Course Schedule

8/29: Introduction/Introduction to object handling

- Talbot 2018, “The Myth of Whiteness in Classical Sculpture.” *The New Yorker*, 18 pages.
- [Radiolab for kids podcast: “Colors”](#) (70 mins) and [the transcript](#).
- Metropolitan Museum of Art Podcast 2022, “[Debunking the Myth of Whiteness](#),” (9 mins) associated with the current “Chroma” exhibition, link has both audio, images and transcript
- Object handling quiz (in class)

9/5 Labor Day—No Class

9/12: What Are We Looking At/For? Are We Just Looking?

- Wharton 2021, “Introduction.” In *A Cultural History of Color in Antiquity*, 1-16.
- Bradley 2013, “Colour as Synaesthetic Experience in Antiquity.” In *Synaesthesia and the Ancient Senses*. *Acumen*: 127-140.
- Brøns 2022, “Sensuous Encounters: The Adornment of Cult Statues in Ancient Greece.” In *Iconotropy and Cult Images from the Ancient World*: 14-35.

IN CLASS:

- ❖ Start examining objects.
- ❖ Sign up for leading class discussion.

9/19: How the Ancient Saw/What We See Now

Guest speaker: Jennifer Stager, Johns Hopkins University, History of Art

- Stager 2022, “Introduction.” In *Seeing Color in Classical Art*. 30 pages.

- Explore the [“Chroma”](#) exhibit now at the Metropolitan Museum of Art, scroll down to some of the color reconstructions of ancient objects and choose one to spend a few minutes looking at and reading about.
 - Watch [“The Modern Invention of Ancient White Marble”](#) (6 mins)
 - Watch [“Chasing Color”](#) (5:30 mins)
 - Optional: Test out the Augmented Reality version of an ancient painted sphinx: <https://chroma.metmuseum.org>

IN CLASS:

- ❖ Start examining objects, add in microscopy.

9/26: Introduction to Roman Egypt and Painted Plaster Funerary Masks

Guest speaker: Asja Mueller, Freie Universitaet Berlin, Institute of Classical Archaeology

- Mueller 2018, “Masking the Dead in Roman Egypt.” In *Masks from the Ancient Near East and the Eastern Mediterranean*: 91-112.
- Walker, 2000, “Portraits on Painted Plaster Masks.” In *Ancient Faces. Mummy Portraits from Roman Egypt*: 128-140.
- Clarke 1995. “The Conservation of a Group of Egyptian Graeco-Roman Stucco Mummy Masks.” In *Conservation in Ancient Egyptian Collections*: 69-76.

IN CLASS:

- ❖ Start examining objects, add in microscopy. Hand in initial set of observations and questions at the end of class.

9/29: Extra credit: Talk by Sarah E. Bond in the Classics Department, 4:30pm, Gilman 108

10/3: The Materiality of Color: Colorful substances, Pigments, Lakes and Dyes

- Dyer and Newman 2020. [“Multispectral Imaging Techniques Applied to the Study of Romano-Egyptian Funerary Portraits at the British Museum.”](#) In *Mummy Portraits of Roman Egypt: Emerging Research from the APPEAR Project*, 18 pages.
- Scott, D.A. 2016. “A Review of Ancient Egyptian Pigments and Cosmetics.” *Studies in Conservation*, 61: 4, 185-202.
- Dine et al. 2021, “Technical Study of a Plaster Funerary Mask in the Collection of the Harvard Art Museums.” *Objects Specialty Group Postprints, American Institute for Conservation*. 20 pages.

OUTSIDE OF CLASS:

- ❖ Multi-band imaging to be scheduled this week.

10/10: Color Chemistry

Guest speaker: Jamie Young, Johns Hopkins University, Chemistry

- Reading to be assigned by Jamie Young.
- Cartwright and Middleton 2009, “Scientific Aspects of Ancient Faces: Mummy Portraits from Egypt.” *British Museum Technical Bulletin*, 9 pages.
- Svoboda, Trentelman and Walton, 2008. [“Analysis of Red Pigment Found on Red Shroud Mummies.”](#) (5 pages)
- Dyer 2022, [“Maya Blue: the Enigmatic Pigment”](#) British Museum podcast (26 mins) and look at the [British Museum’s Maya Blue project](#).

OUTSIDE OF CLASS:

- ❖ Multi-band imaging to be scheduled this week.

10/17: The Economics of Color

Guest speaker: Hilary Becker, Binghamton University, Middle Eastern and Ancient Mediterranean Studies

- Becker 2021, "Technology and Trade." In *A Cultural History of Color in Antiquity*: 35-48.
- Thavapalan 2020, "Stones from the Mountain, Stones from the Kiln: Colour in the Glass Texts from Ancient Mesopotamia." In *The Value of Color*: 177-200.
- Brecoulaki, Kavvadias and Verri 2014, "Colour and Luxury. Three Classical Painted Marble Pyxides from the Collection of the National Archaeological Museum, Athens." In *Transformations: Classical Sculpture in Colour*: 152-165.

IN CLASS:

- ❖ Label multi-band images.

10/24: Color Makers and Workers

- Burke 2013, "[Hands on the Wall: Were the First Artists Actually Women?](#)" In *The Conversation* (4 pages), and the [accompanying video](#) (2:53).
- Bond 2017, "[The Hidden Labor Behind the Luxurious Colors of Purple and Indigo](#)," *Hyperallergic*, 5 pages.
- Martelli 2015, "Alchemical Textiles: Colourful Garments, Recipes and Dyeing Techniques in Graeco-Roman Egypt." In *Greek and Roman Textiles and Dress. An Interdisciplinary Studies in Textiles and Dress*: 111-129.
- Radini et al. 2019, "Medieval Women's Early Involvement in Manuscript Production Suggested by Lapis Lazuli Identification in Dental Calculus." *Science Advances*: 1-23.

IN CLASS:

- ❖ Identify areas on portraits to study by x-ray fluorescence.

OUTSIDE OF CLASS:

- ❖ X-ray fluorescence work to be scheduled this week

10/31: Architectural Color

- Ramirez et al, 2015, "Natural and Artificial Colors: The Megalithic Monuments of Brittany." *Antiquity*: 55-71.
- Stupko-Lubczynska 2022, "Masters and apprentices at the Chapel of Hatshepsut: Towards an archaeology of ancient Egyptian reliefs." *Antiquity*: 85-102.
- Pope, S. and P. Schultz. 2014. "The Chryselephantine Doors of the Parthenon." *American Journal of Archaeology* 118, 1: 19-31
- Payne, E. and D. Booms. 2014. "[Analysis of Pigment Palettes as Evidence for Room Status in Nero's Golden House.](#)" *British Museum Technical Research Bulletin* 8: 117-126.

OUTSIDE OF CLASS:

- ❖ X-ray fluorescence work to be scheduled this week

11/7: Ancient Color Maintenance, Recovery and Reconstruction

Guest speaker: Giovanni Verri, Art Institute of Chicago, Department of Conservation and Science

- Verri, G. et al. 2010, "[The Treu head: A Case study in Roman Sculptural Polychromy.](#)" *British Museum Technical Research Bulletin* : 39-53.
- Neri, Nasar and Strivay 2022, "[Ancient Restoration in Roman Polychromy: Detecting Aesthetic Changes?](#)" In *Heritage*: 829-848.

- Østergaard 2019, [“Reconstruction” of the Polychromy of Ancient Sculpture: A Necessary Evil?](#) *Techne*, 11 pages.
- Campanaro and Landeschi 2022, “Re-viewing Pompeian Domestic Space Through Combined Virtual Reality-Based Eye Tracking and 3D GIS.” *Antiquity*: 479-486.
- Small 2022, [“That Painted Greek Maiden at the Met: Just Whose Vision Is She?”](#) *NYTimes*, 9 pages.

11/14: Open session

No assigned reading or quiz. We will use this time to look at your objects, go over the information we’ve gathered and work on the first draft of your reports and presentations.

11/18: First full draft of examination report uploaded to JHOneDrive by noon.

11/21 No Class—Thanksgiving break

11/28: Methodologies for Tracking Color Culturally and Regionally

Guest speaker: Marie Svoboda, The J. Paul Getty Museum, Department of Antiquities Conservation

- Getty Museum Podcast 2018, [“Marie Svoboda on Egyptian Mummy Portraits,”](#) 31 mins
- Selections from *Mummy Portraits of Roman Egypt: Emerging Research from the APPEAR Project* (2020):
 - Williams, Cartwright and Walton, [“Defining a Romano-Egyptian Painting Workshop at Tebtunis.”](#) 6 pages.
 - Barr, [“From All Sides: The APPEAR Project and Mummy Portrait Provenance.”](#) 12 pages
 - Mazurek, [“Characterization of Binding Media in Romano-Egyptian Funerary Portraits.”](#) 9 pages.

12/5: Student presentations

- ❖ 7-minute group presentations
- ❖ Upload powerpoint presentation to by noon on 12/5

12/21 (Wed): Final papers, website texted and updated Powerpoint presentations uploaded to JHOneDrive by 5pm. Feel free to turn in material earlier if you are finished before this.