

Freshman Seminar 52c: Tree
Fall 2020 Harvard College

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Course Description

Short:

Have you hugged a tree lately? How about grown one? Photographed one? Drawn one? Written about one? Imagine a semester devoted to connecting two organisms: a person (you) and a tree (not you). Interacting with a single tree, you will explore its individual history, evolutionary history, life cycle, leaves, bark, roots, flowers, cones, and architecture.

Complete:

To wander about among a vegetation which is new to one is pleasant and instructive. It is the same with familiar plants as with other familiar objects: in the end we cease to think about them at all. But what is seeing without thinking? (Goethe, Italian Journey)

In an age of environmental destruction and outright murder of our biological brethren, there is something deeply troubling about humanity's relationship with nature. Technology has left us with mere facsimiles of nature - pixelated abstractions of biodiversity through satellite imagery, decoded strings of DNA – and we, as a species, have become fundamentally disconnected from actual nature and the magnificent organisms with which we share the earth. In this seminar, we will work to understand and give agency to trees as individual organisms, literally rooted in the ground, and evolutionarily rooted in deep time. Topics to be covered include the evolutionary origin of arborescence, human relationships with non-sentient organisms, the case for legal rights for natural objects, reading a twig, the unseen world of roots, and finding human meaning in the longevity in trees. Each student will also work with an individual tree in the living collections of the Arnold Arboretum of Harvard University and observe (*see*) this organism throughout the entire semester through the creation of images (photography, drawing), journaling, and other forms of representation. The goal of this freshman seminar will be to initiate a personal and lifelong connection with the “other,” the vast and variant organisms with which we share the planet.

Readings: Readings for each class are listed on the syllabus and will be available on the Canvas course site.

Weekly reaction statements: Every week, each student will submit on Canvas by 9:00 am on the day of class a synopsis of what she/he/they discovered in the readings, what she/he/they thought was interesting about the readings and a general reaction to the readings. There is no standard format for these writings. The goal is to develop your abilities to write about ideas and create interesting narratives and queries about the readings. Except for the last class meeting, each reaction statement should be a single-spaced page of text. For the last reaction statement of the semester, you will submit a five-page essay that covers the entirety of the semester and reflects on what you have learned and experienced through the readings and your personal observations of a tree.

Observing a tree: There is no single “right” way to observe a tree or any other organism. But, to take in another organism does require that you begin by pledging to avoid making that organism a mere extension of *your* self. Over the course of the semester, you can hope that by getting to know another organism you will experience joy, delight, mystery – indeed, a wide range of personal reactions and emotions. After all, you are a sentient being.

So, how to observe? There are two ways of proceeding. First, you need to record and reflect on your tree every week. You can photograph, draw or sketch, write in a journal, record sounds; in essence anything goes. Rest assured that you will get better at all of these approaches to giving standing to your tree as the semester proceeds and you become a better, keener observer. Second, you must decide what you are going to observe. This can vary from week to week and need not be planned. Indeed, it may be best to simply arrive at your tree and let it guide you to a set of observations and personal reflections. There is the whole tree, its architecture and stature. There are the organs of the tree, its seeds and fruits, leaves, buds, bark. There are colors, textures, processes (senescence, for example in the fall; growth and the creation of new organs in the spring and summer). Allow yourself to obsess while you are observing your tree.

To complete each week’s interaction with another organism, in the evening of the day when you have visited your tree, you should devote time to reflection. Look at your photographs, drawings, writing, recordings. Frame your images, refine your writing, resketch. Think. Ponder. Go online and look things up. Think. Ponder.

Weekly lightning presentations: Each week, before class, you will submit one photograph of your tree with a single paragraph *giving voice to the tree* that is represented in the pixels. We will begin each class by viewing these images along a 90 second to two-minute articulation of what you saw. This should not be extemporized on the spot. Plan your words and organize your thoughts beforehand.

Final student presentations: During the last two meetings, each student will prepare a powerpoint presentation of the semester’s observations and personal reflections on his/her/their tree. This presentation should be ten to fifteen minutes in length.

Academic integrity: Students are expected to abide by the FAS policy on Academic Dishonesty. The policy is available in the student handbook and is located on-line at:
[http://static.fas.harvard.edu/registrar/ugrad_handbook/current/chapter2/academic_dishonesty.htm](http://static.fas.harvard.edu/registrar/ugrad_handbook/current/chapter2/academic_dishonesty.html)
[1](#)

Accommodations for students with disabilities: Students needing academic adjustments or accommodations because of a documented disability must present their Faculty Letter from the [Accessible Education Office](#) (AEO) and speak with the professor by the end of the second week of the term, September 13. Failure to do so may result in the Course Head's inability to respond in a timely manner. All discussions will remain confidential, although Faculty are invited to contact AEO to discuss appropriate implementation.

Class locations: All fall semester 2020 classes at Harvard College will be taught online. Links to Zoom meetings will be available on Canvas.

Weekly meeting time: 3:00–5:45 PM on Mondays

Class Schedule

Week 1 – September 2, 2020 (Wednesday, with Monday schedule)

Topic: Course overview; Introduction of the teaching team; What is a tree? Can the essence of a tree be defined?

Meet: Online

Read: Tudge C. (2005) *What is a tree?* In: *The Tree: A Natural History of What Trees Are, How They Live, and Why They Matter*. New York: Crown Publishing Group.
Pages 3–20.

At the Arboretum (digital) experience: Planting a tree; propagation; and the miracle of a tree seed

September 7, University holiday

Week 2 – September 14

Topic: Birth of the concept of an arboretum; birth of the Arnold Arboretum; a virtual walk on the grounds

Meet: Online

Read: Friedman W.E., Dosmann, M.S., Boland, T.M, Boufford, D.E., Donoghue, M.J., Gapinski, A., Hufford, L., Meyer, P.M., and Pfister, D.H. (2016) Developing an Exemplary Collection: A Vision for the Next Century at the Arnold Arboretum of Harvard University. *Arnoldia* 73(3). Pages 2-18.

Hay, I. (1994) George Barrell Emerson and the Establishment of the Arnold Arboretum. *Arnoldia* 54(3). Pages 12-21.

Loudon, J., & Strutt, J. (1840) *The Derby arboretum containing a catalogue of the trees and shrubs included in it, a description of the grounds and directions for their management, a copy of the address delivered when it was presented to the town of Derby, by its founder, Joseph Strutt, esq., and an account of the ceremonies which took place when it was opened to the public, on Sept. 16, 1840*. London: Longman, Orme, Brown, Green & Longmans. **Pages 7–10 & 71-97.**

Submit: One-page reaction statement to reading

Week 3 – September 21

Topic: The origin of arborescence: an evolutionary historical perspective

Meet: Online

Read: Lucretius Carus, T., & Copley, F. (2011) Book V. In: On the nature of things. New York: W.W. Norton. **Pages 126 (line 596)–134 (line 924).**

Darwin, E. (1803) The temple of nature; or, The origin of society: A poem, with philosophical notes. London: J. Johnson. **Pages ii (Preface)–28 (Canto I, line 314).**

Stein, W., Berry, C., Morris, J., Hernick, L., Mannolini, F., Ver Straeten, C., ... Leake, J. (2020) Mid-Devonian Archaeopteris Roots Signal Revolutionary Change in Earliest Fossil Forests. *Current Biology*, 30(3). Pages 421–431.

Submit: One-page reaction statement to reading

Week 4 – September 28

Topic: Intertwining trees and humans

Meet: Online

Read: Powers, Richard. (2018). Nicholas Hoel and Patricia Westerford. In: *The overstory: A novel*. New York: W.W. Norton & Company. Pages 5-23 and 112-144.

Auslander, Mark (2016-11-29). "Slavery's Traces: In Search of Ashley's Sack". *Southern Spaces*. [doi:10.18737/M76M44](https://doi.org/10.18737/M76M44)

Submit: One-page reaction statement to reading

Week 5 – October 5

Topic: Should trees have legal standing?

Meet: Online

Read: Stone, C. (2010). *Should Trees Have Standing?: Law, Morality, and the Environment* (3rd ed.). Oxford University Press. Introduction and pages 1-31.

Stone, C., & Hardin, G. (1974). *Should trees have standing? Toward legal rights for natural objects*. Los Altos, Calif.: W. Kaufmann. Foreword.

McCullers, C. (2005). *The ballad of the sad café and other stories*. Boston: Houghton Mifflin. "A tree, a rock, a cloud" pages 141-152.

Submit: One-page reaction statement to reading

October 12, University holiday

Week 6 – October 19

Topic: Biogeography: Global migrations of temperate trees: Eastern North America is filled with botanical emigrants from Asia

Meet: Online

Read: Selected correspondence between Asa Gray and Charles Darwin on disjuncts.

Boufford, D., Spongberg, S., & Morin, Nancy. (1983). Eastern Asian-eastern North American phytogeographical relationships; a history from the time of Linnaeus to the twentieth century. *Annals of the Missouri Botanical Garden*, 70(3), 423-439.

Yih, D. (2012). Land Bridge Travelers of the Tertiary: The Eastern Asian-Eastern North American Floristic Disjunction. *Arnoldia*, 69(3), 14-23.

Harnik, P. G., Maherali, H., Miller, J. H., & Manos, P. S. (2018). Geographic range velocity and its association with phylogeny and life history traits in North American woody plants. *Ecology and Evolution*, 8(5), 2632-2644.

Submit: One-page reaction statement to reading

Week 7 – October 26

Topic: The inner world of buds: Reading a twig and comprehending tree longevity

Meet: Online

Read: Gray, A. (1844). The Longevity of trees. *North American Review* 59, 189-238.

Schleiden, M., & Henfrey, A. (1848). *The plant: A biography, in a series of popular lectures*. London: Hippolyte Bailliere. Selected passages on longevity and the essence of plants as ever-developing organisms

Core, E.L. & Ammons, N.P. (1958) Woody plants in winter. In: *Woody Plants in Winter*. pp. 1–15.

Submit: One-page reaction statement to reading

At the Arboretum (digital) experience: Dissecting buds and reading twigs

Week 8 – November 2

Topic: Tree rings, bark, and recording the past

Meet: Online

Read: Wagoner, D. (1999). *Traveling light: Collected and new poems*. Urbana: University of Illinois Press. “Stump speech.”

Hitch, C. (1982). Views: Dendrochronology and Serendipity: An astronomer's simple but ingenious technology failed in its original objective but achieved unforeseen and astounding successes. *American Scientist*, 70(3), 300-305.

Trouet, V. (2020). And the tree was happy (chapter 4). In *Tree Story*. Johns Hopkins University Press.

Submit: One-page reaction statement to reading

Week 9 – November 9

Topic: Roots, the unseen half (architecture and symbioses)

Meet: Online

Read: Perry, T. (1989). Tree Roots: Facts and Fallacies. *Arnoldia*, 49(4), 2-21.

Elkin, R. (2017). Live Matter: Towards a theory of plant life. *Journal of Landscape Architecture*, 12(2), 60-73.

Submit: One-page reaction statement to reading

At the Arboretum (digital) experience: Excavating a root system with an air spade
(also: [airspading on YouTube](#))

Week 10 – November 16

Topic: Tree fecundity, seeing the trees through the forest

Meet: Online

Read: Koenig, Walter D. and Knops, Johannes M. H. (2005). The mystery of masting in trees: Some trees reproduce synchronously over large areas, with widespread ecological effects, but how and why? *American Scientist* 93, 340-347.

Kimmerer, Robin Wall. The Council of Pecans. In: *Braiding Sweetgrass*. pp 11–21.

Mitton, Jeffry B, & Grant, Michael C. (1996). Genetic Variation and the Natural History of Quaking Aspen. *Bioscience*, 46(1), 25-31.

Submit: One-page reaction statement to reading

Week 11 – November 23

Topic: What is *a* tree? Student presentations

Meet: Online

Week 12 – November 30

Topic: What is *a* tree? Student presentations

Meet: Online

Submit: **Five**-page reflection on a tree