Deep Time Architecture: Building as Material Event

Option Studio
MIT ARCHITECTURE_ARCH 4.154
SPRING 2026 T-Th 1:00 – 5:00
Studio Instructors: *Cristina PARREÑO ALONSO*
Teaching Assistants:*Gert, DUVENHAVEN*

Studio Description

At what timescale does architecture flow?

This studio begins with a provocation rather than an answer. It asks students to reconsider architecture not as a static object, but as an event.

Underlying this studio are two fundamental shifts in perspective:
First, the studio treats architecture as something that flows across time: buildings are understood not as fixed entities, but as events shaped by movement, material behavior, and change.
Second, it recognizes that architecture does not operate within a single temporal frame. Instead, every building emerges at the intersection of multiple, uneven timescales—some extremely short, others vastly long.

When we zoom far out enough, one of these trajectories is **deep time**: geological time. At this scale, architecture clearly flows—like landscapes, mountains, and even continents. All architecture is, ultimately, geology: it comes from the Earth and will eventually return to it. Yet architectural practice often compresses or obscures not only geological time, but many other important temporalities at work in the making of buildings.

The core argument of the studio is:
For architects to become good ancestors and planetary stewards, we must develop temporal literacy—the capacity to recognize, engage, and design across uneven and entangled timescales. These include the times of material extraction and transportation; construction; labor, use, and maintenance; ecological and climatic processes; post-demolition lives of materials and more—all flowing together within the life of the buildings we design.

In this studio, time itself becomes the primary material, and with it, movement.

Architecture as Event and Agency

Drawing inspiration from artistic practices that shifted from the static object to action and process, the studio expands architectural agency beyond human intention alone. Architecture is understood as something shaped not only by designers and machines, but also by material behaviors and environmental forces.

Architects are positioned as choreographers of events unfolding across time, while buildings (form and space) are understood as the traces left by these material processes.

Site and Field of Operations

The field of operations for the studio is the **Vermont geological formation**—a landscape shaped by long histories of extraction, labor, and material violence. The studio will include visits to several quarries, with a focus on two sites:

- **Dorset Quarry**, the first marble quarry in Vermont, now inactive. As water has filled the void left by extraction, the site has entered a new, informal afterlife—supporting new uses, rituals, bodies, ecologies, and ownership structures.
- **Danby Quarry**, the largest underground marble quarry in the world and still fully active. In just over a century, it has carved an interior void extending more than a mile into the mountain, becoming the reciprocal site of hundreds of buildings across the United States.

Together, these sites expose stark temporal paradoxes in architecture: stone formed over millions of years is extracted at radically accelerated speeds. Geological time collides with machine time and labor time, while leisure, ritual, and everyday use become entangled with violent processes of extraction.

Within this context, the studio asks:

- How can architects become good ancestors and planetary stewards—designing spaces that acknowledge inherited pasts and take responsibility for futures beyond their own lifetime?
- How can architecture enter these material landscapes not as solution or remediation, but as a temporal apparatus—a question machine?
- How can architectural interventions make visible temporal structures that are typically abstracted, compressed, or hidden?
- How can buildings be conceived not as final objects, but as moments within longer narratives of events extending far into the past and deep into futures we will never fully see?
- How can slow erosion be used deliberately as an architectural technique?
- How can architecture mediate between different timelines—between the tempos of the human body and those of the mountain, and between our time and the time of future generations?
- How can use be designed as an open-ended sequence rather than a prescribed function?
- Could a machine designed for extraction stop quarrying stone and instead become a tool for material organization, staging, or cyclical maintenance?

The studio will be divided in 3 segments:

E1 — Temporal-Motion Atlas of Vermont.
A collective investigation of Vermont as a polytemporal landscape.
Students build a shared atlas of timelines that reveal how geology, quarrying, labor, machines, transportation, and landscape processes operate at different rates and scales.

E2 — Material Event (Dorset) *Architecture as trace.*
Students choreograph geological, machine, and construction agents to produce a spatial fragment that emerges from material events rather than program or form.

E3 — Time Machine (Dorset or Danby) *Designing as ancestors.*
Students design an architectural apparatus that engages deep pasts and long futures—working with geological history, present use, and future generations as active design constraints.

Resources: Students will be invited to a dropbox shared folder with resources and materials that will be referred to during studio.

Essays on Time and Architecture by the Instructor:

2025 — Arquitecturas Policrónicas: Una Propuesta desde el Deep Time, **Arquia**

2024 — The Deep Time Project: Architecture as Planetary Abstraction, Routledge

2022 — The Builtsphere: A Broken Geological Paradigm, **Journal of Architectural Education**

2022 — Deep and Shallow Timescales of the Builtsphere, **Log**

2021 — Deep Time Architecture: Building as Material Event, **Journal of Architectural Education**

2019 — Tectonics of Perception, **Journal of Architectural Education**

Schedule

Week 1:	T	02/03	Studio Presentations
	Th	**02/05**	**Intro E1 (Timelines: Vermont)**
Week 2:	T	02/10	Studio
	Th	**02/12**	**Pin Up E1/ Intro E2 (*Material Event* in Dorset)**
Week 3:	T	02/17	No class. Monday Schedule
	Th	02/19	Studio
Week 4:	T	02/24	Studio
	Th	**02/26**	**REVIEW E1/ Pin Up E2**
Week 5:	T	03/03	Studio
	Th	03/05	Studio
Week 6:	T	03/10	Studio
	Th	03/12	**REVIEW E2/Intro E3 (*Time Machine* in Dorset/Danby)**
Week 7:	T	03/17	Studio
	Th	**03/19**	Studio
Week 8:	T	03/24	SPRING BREAK
	Th	03/26	SPRING BREAK
Week 9:	T	03/31	Studio
	Th	04/02	Studio
Week 10:	T	04/07	Studio
	Th	04/09	**MIDTERM**
Week 11:	T	04/14	Studio
	Th	04/16	Studio
Week 12:	T	04/21	Studio
	Th	04/23	Studio
Week 13:	T	04/28	Studio
	Th	04/30	Studio
Week 14:	T	05/05	Studio
	Th	05/07	Studio
	F	05/08	**FINAL REVIEW**

Course Expectations. Evaluation Criteria And Grading

Class Meetings
The Studio class will meet Tuesdays and Thursdays from 1:00 PM to 5:00 PM, EST.

The following criteria will be used for the evaluation of your work, both in terms of helping your progress and in final grading:

1/Thesis: How clearly are you articulating your conceptual intentions?
2/Translation of Thesis: How well are you using your thesis to develop an architectural response to given problems?
3/Representation Appropriateness: How well matched is your choice of representational means to your intentions?
4/Representation Quality: To what degree do your representations convey what they ought to?
5/Oral Presentation Skills: How clearly are you presenting your ideas orally, whether at your desk, or to a more formal jury?
6/Participation in Discussions: How actively and how constructively are you involved in class discussions?
7/Response to Criticism: How effectively do you take advantage of criticism from instructors, your classmates, and outside jurors?
8/Auto-Critical Skills: To what extent are you able to critique your own work regularly and effectively?

A: Excellent
Project surpasses expectations in terms of inventiveness, appropriateness, verbal and visual ability, conceptual rigor, craft, and personal development. Student pursues concepts and techniques above and beyond what is discussed in class.

B: Above Average
Project is thorough, well researched, diligently pursued, and successfully completed. Student pursues ideas and suggestions presented in class and puts in effort to resolve required projects. Project is complete on all levels and demonstrates potential for excellence.

C: Average
Project meets the minimum requirements. Suggestions made in class are not pursued with dedication or rigor. Project is incomplete in one or more areas.

D: Poor
Project is incomplete. Basic skills including graphic skills, model-making skills, verbal clarity or logic of presentation are not level-appropriate. Student does not demonstrate the required design skill and knowledge base.

F: Failure
Project is unresolved. Minimum objectives are not met. Performance is not acceptable. This grade will be assigned when you have more than two unexcused absences.