

Decelerated Traces: Crafting a Drawing Practice for an Early Design Curriculum

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This pedagogical project takes a position against seemingly complete digital drawings which appear to be too over-determined, too finished, and too realistic renditions of ideas. Instead, it calls for reflection on what should constitute drawing methods and practices for a beginning design studio allowing ideas to mature and evolve at a slower pace. Nowadays, in architectural practice, the use of digital technologies is synonymous with speed, efficiency, and the ease of collaboration and access. The widespread use of these platforms have fortified a linear augmentation towards fast produced, multi-sourced drawings. By resisting the immediacy, that is implicitly built into most of digital platforms, the paper discusses the possibility of imagining a different drawing agenda, one that enables spatial, formal, and programmatic discoveries for students who start their education in architecture. Developing links between evidence and imagination is the primary objective of the studio which proposes a fully engaged practice of drawing. The following questions have been foundational for the studio: How can digital drawings be a vehicle for experimentation and discovery from the onset and without being consumed with technological procedures? What replaces traditional methods of drawing in studio and how can one engage the digital, without being subsumed by technique? What does the future of drawing, in the pedagogical context look like? Cohering these questions and concerns has given shape to the development of a curriculum taught over 6 years to beginning design graduate students.

INTRODUCTION

There is little argument over the significance of architectural drawings as the primary media of thought and action in architecture.¹ One of the strongest proponents of architectural drawings as a link to physical and built realities, Robin Evens, noted that drawing's "generative power has mainly been unacknowledged in principles and theory."² Over the past few decades, the development of digital tools has led to diverging reactions on the evolution of architectural drawings into new platforms, concerning the validity of the tools, the unfolding of the techniques, and the legitimacy of the end results.³ While the digital platforms are now ubiquitously present, there is room

for reflection when we face the persistence of seemingly complete and multi-faceted drawings with a level of false realism and seeming perfection that betrays the notion that thinking through drawing needs time. While there is complexity in technique and mastery of different platform, the teaching of drawing in pedagogical contexts have become technical to a large extent, leaving the possibility of experimentation and reflection for later times, when enough prowess is attained and one masters the intricacies of a certain platform. The present work takes issue with this notion of productivity in a pedagogical context and reflects on the avenues and methods that can slow down, make complex (rather than simplify), and tamper with such premises.⁴ By resisting the immediacy, which is implicit with most of these platforms, the work presented here expands on a different drawing agenda, one that can in turn enable more meaningful spatial, tectonic, programmatic discoveries for students who start their education in architecture. Developing a strong link between evidence and imagination is key in the structure of the studio which proposes a fully engaged practice of drawing, keeping in mind Paul Emmons's suggestion that in order to activate the "constructive and inhabitative imagination" which are critical for architecture developing embodied drawing practices are vital.⁵

The following questions have been foundational in crafting the premises of the studio: Can we maintain digital drawings as a vehicle for experimentation and discovery, without being consumed with technological procedures? How should we teach, and what would we teach in lieu of traditional drawing methods? What are the contemporary paradigms that allow us to make and judge the process of conception and realization of an architectural project? Ultimately, what do we foresee as the future of the drawing practices of today? In line with Mark Wigley's suggestion that the role of the architect is to "provide some kind of coherent thinking out about heterogeneous forces," the curriculum brings together studying evidence and understanding it by drawing, constantly "reassessing, reimagining and reconsidering" it.⁶ There are many precedents for contemporary practices of architectural drawings that serve as precedent for the studio, from the work of individuals such as Daniel Libeskind and Perry Kulper, to those of partners such as Rania Ghosn and El Hadi Jazayeri to Marcos Cruz and Marjan Colletti's Marcos and Majan, to the pedagogical experimentations such as the ones conducted

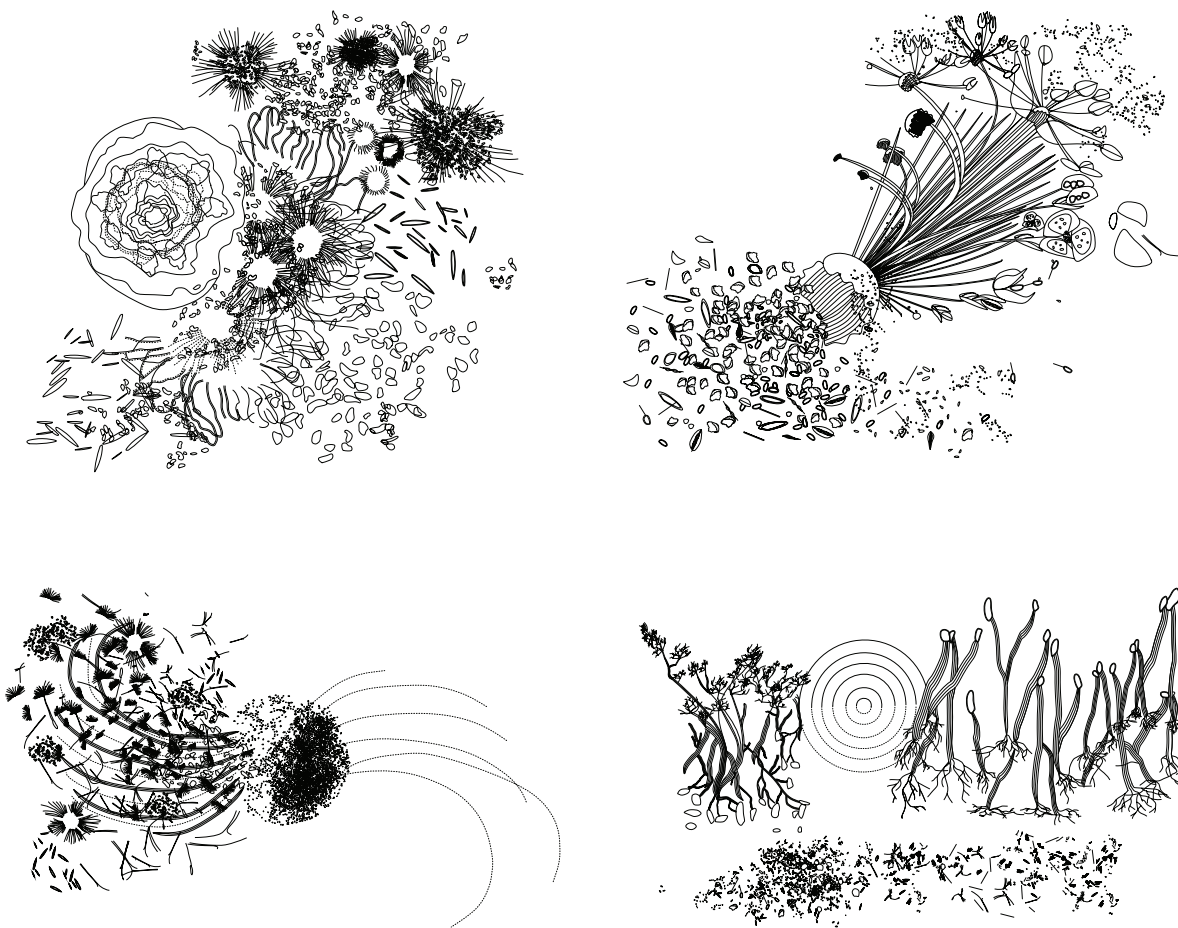


Figure 1. In this series of drawing, Victoria Gitto's interest in the cycle of seed dispersal reveals the importance of movement and duration as active components of the studied phenomenon were present from these early documentations and persisted through the course of the semester. Victoria Gitto, MARCH, University of Massachusetts Amherst.

by Ciro Najle at the Harvard Graduate School of Design, just to name a very select few. Yet the question remains as to how we engage with the digital tools for the beginning design students. How do we both teach them to use the tools and help them develop critical/creative/ productive attitudes that allows them to work in any of the platforms while also maintaining a level of autonomy and agency. These questions and concerns have given shape to the development of a curriculum for a first studio for graduate students who attend a 3-year Master of Architecture Program at the University of Massachusetts Amherst, titled: *Infinitely Large, Incredibly Small: Curiosity Cabinets for the 21st Century*. Most students who enter the program have limited architectural background and come from fields as varied as engineering, geology, classics, journalism,

CURIOSITY CABINETS, RE-IMAGINED IN DRAWING

The development of digital media has opened the possibility of understanding the world in scales hitherto inaccessible to us. Through our screens, we can look at the minutest particles of matter, or marvel at an infinitely far and large object. Such acute

observations lead to extraordinary perceptions of the world and suggest new avenues for design. (Figure 1.)

The studio makes use of digital tools and techniques to investigate an array of natural phenomena and artificial apparatus by exploring the theme of "Curiosity Cabinets". Historically, Curiosity Cabinets were developed from the 1500s onward and contained curios and extraordinary objects, such as "minerals, monstrous births, rare animals' skeletons, wax figures, fossils, corals, death-masks, ivory carvings, automata, machines of all sorts, scientific instruments, terrestrial and celestial globes" just to name a few.⁷ The curation and arrangement of these objects carefully recreated microcosms capable of reflecting the outside world and augmenting one's understanding and appreciation of it. The intended meaning or significance of these collections were as much dependent on their assembly as the objects themselves.⁸ By selecting among a series of precedents, the studio invites the students to investigate the logic and structure of natural or man-made constructs and the interrelationships of the container and the contained to formulate a series of architectural interventions

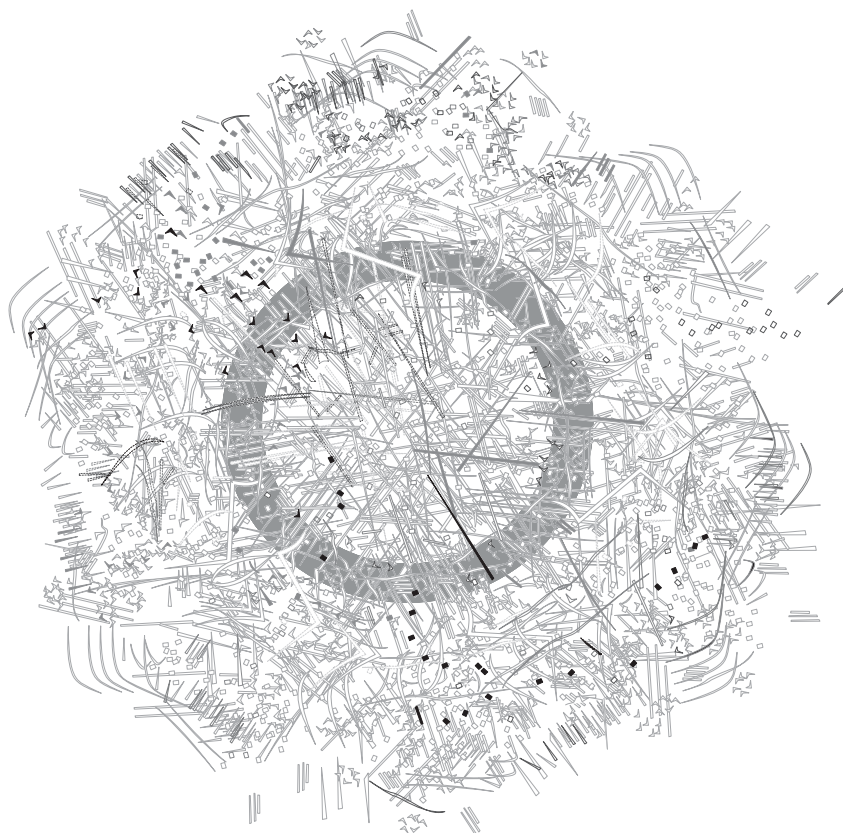


Figure 2. In this drawings, Erica DeWitt, who had a background in geology and gemology explored the crystallography of a pearl. The drawing both depicts and abstracts such structure. Continuous adjustment of line weight, hierarchies, and layers happened during the development of these drawings. Erica DeWitt, MARCH, University of Massachusetts Amherst.

at various scales. Students are encouraged to examine a natural and/or scientific phenomenon, by initiating an investigation encompassing a wide array of actions: from analysis to interpretation, from translation to creation, and from understanding to making. This framework requires a careful balance allowing each student to set up and develop processes and methods of one's own, with guidance and sustained discussions about the evolution of the work. Curiosity, observation, imagination and forming an individual creative process are the four threads that are at the core of the studio structure. (Figure 2)

The studio is structured around three projects at significantly different scales: Exploring the theme of Curiosity Cabinets students will first make a portable curiosity cabinet of wondrous evidence of digital images and drawings. In order to do this, a series of prompts are presented to start a conversation about the topic of interest: How does this phenomenon work? What scale does it exist? What are its fundamental logics or its prominent behavioral patterns? How does it evolve through time? The students are then asked to translate their observations into to a series of drawings and diagrams. The drawings are not representational, but an augmentation, a commentary, a translation, or

an interpretation of the phenomenon each student selects. Part evidence executed with forensic accuracy, and part substance suggested with imaginative desire, the drawings personify the sign and the signified of the subject of study. For this project, students are asked to make a series of six drawings. The drawings in the series are to reveal some aspect of the case study. The series could be scale-based, relational (based on spatial arrangements), or time-based.

FROM ABSTRACT TO SPATIAL + FORMAL DISCOVERIES

The students are asked to take the drawings created in project one use them to think of a space that is the size of a room, adding structural and programmatic criteria to the process of space making. In this phase, which is often the most challenging for most students, they are asked to imagine their 2-dimensional drawings as a basis for a preliminary spatial model. To do so, they can imagine their drawings as the 6 faces of an imaginary cube, or layer them by stacking, rotating, or intersecting them to find any configurations for the assembly that once again corroborates the attributes of their phenomenon. The students make a series of rules and thus observe the implication of their decisions on the resulting formation/transformation of the spatial

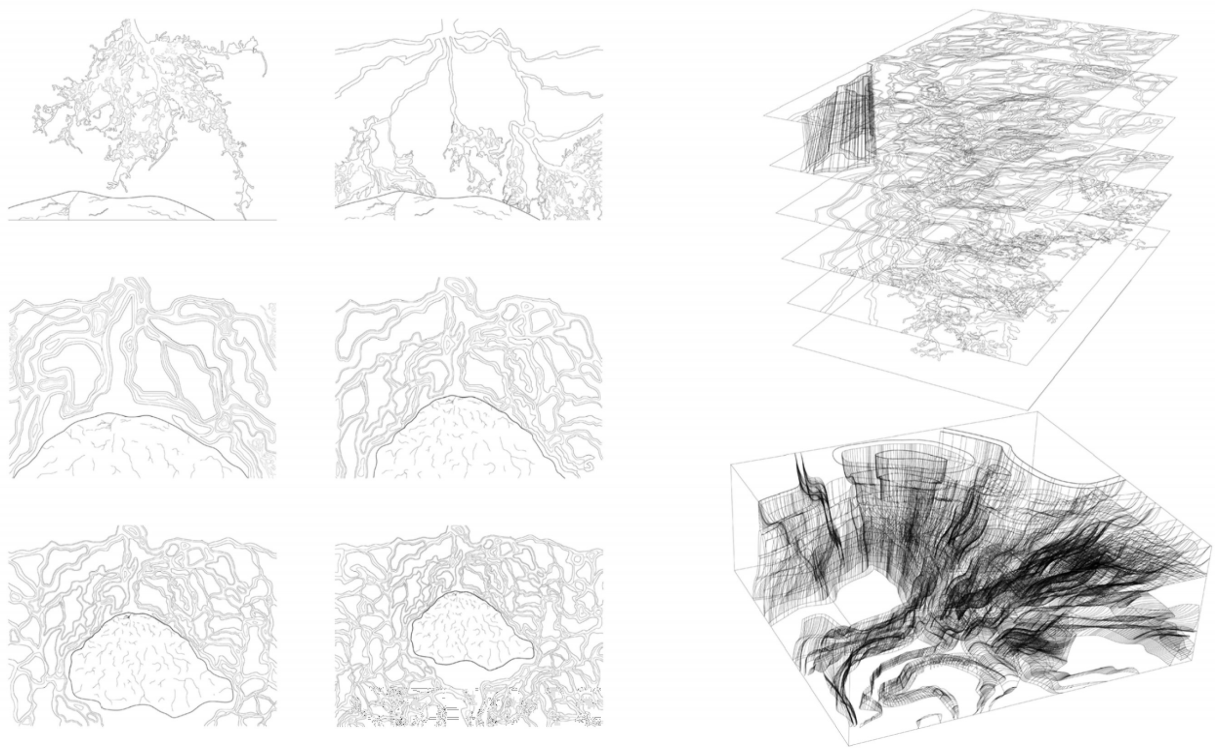


Figure 3. In these drawings, project 1 (on the right) and project 2 on the left show the evolution of the project. Andrew Jones who was studying tree-root growth over time and adaptation when they meet physical obstacles, conducted multiple iterations of their spatialized 3D construct, to arrive at a structure that resonated with his phenomenon. Avoiding typical extrusions and working with gradually enlarged templates enabled them to create a space with a central void and a series of concentric spaces/rooms. Andrew Jones, MARCH, University of Massachusetts Amherst.

characteristics of their construct. (Figure 3) Once a configuration forms that they find in line with their subject matter, they give scale to the space by adjusting it to about 500 sq.ft. They are asked to imagine inhabiting this space, as the collector of evidence related to their subject matter. The space in question should provide three of following areas: an area for observation and contemplation, an area for containment and safeguard of the evidence, an area for daily functions such as sleeping, eating, or cooking, etc. By introducing this flexible notion of program, simple ideas of spatial thinking, from one of bodies positioned in the space, to the one in which space is configured to accommodate simple activities, to the space echoing some of the characteristics of their phenomenon, this portion of the studio encourages challenging conventional habits, furniture and modes of inhabitation and think anew about how one may occupy and use the space.

The last part of the studio focuses on creating a modest public/private complex, a museum/ dwelling for the collector, pertinent to the specific theme of everyone's explorations at the scale of a public edifice in the city, where each student designs a house and/or museum for their imaginary collector. This culminating

project calls upon each students' abilities and their discoveries from the two previous phases. The project brings together two distinct spheres of life and work and centers on curiosity, display, and containment of one's collection of drawings and objects. Designing for themselves or an imagined dweller whose interest keys into the subject matter of the first project, the students develop and propose new modes of living which will allow one to reconcile these two seemingly opposing modes of inhabitation: one of recluse and solitary life juxtaposed to one of public display and visibility. The hybrid will find its ultimate form based on the appropriate narrative, which will weave these two activities together and cohere them into one location. While the themes of display and containment were present in project two, the students interpret notions of individual and a collective life, working in between literal, tangible and interpretive concepts.

RESISTING IMMEDIACY

One of the important readings for the studio is Billie Tsien and Tod Williams's, "On Slowness", a short piece that describes their insistence in embracing a slow pace, which they frame as slowness is method, is critical to their practice.⁹ At a first and primary level, the work that develops in the studio is slow, cumulative and

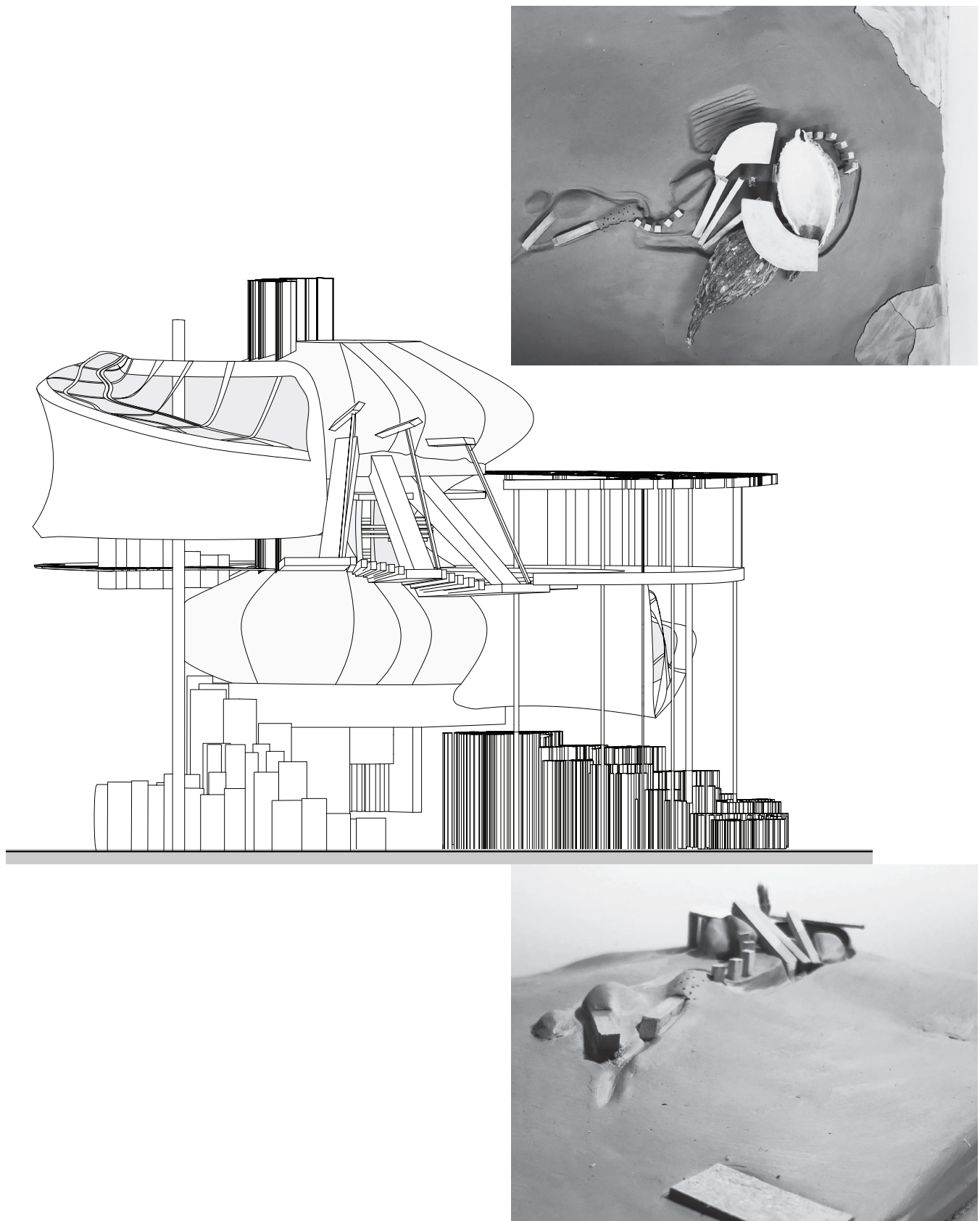


Figure 4. *In the third and last project, Victoria Gitto was intent on an exploration of the site, and opted for sinking the pavilions partially and focused on a continuous spatial progression.* Victoria Gitto, MARCH, University of Massachusetts Amherst.

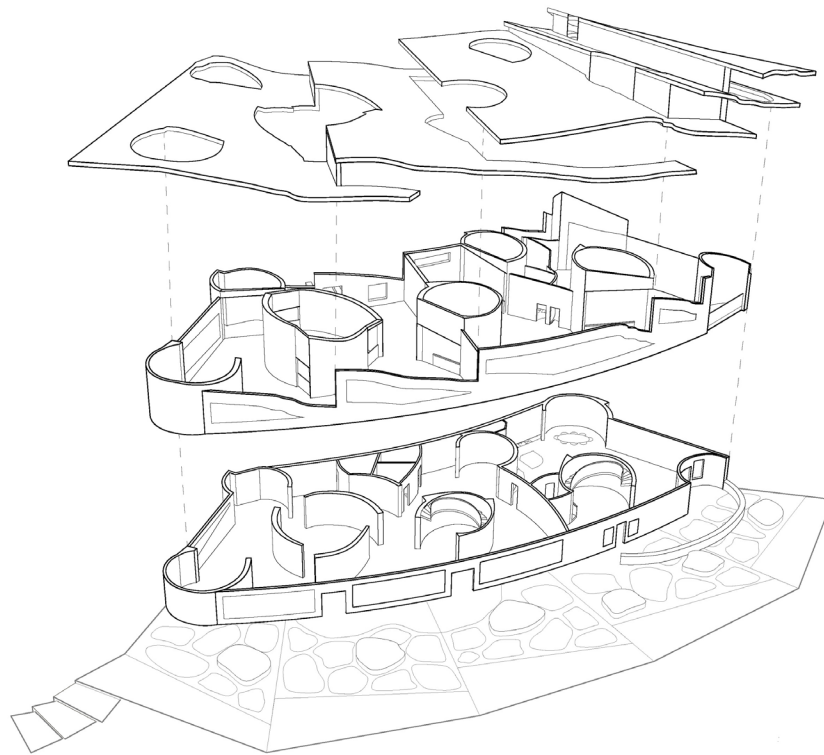


Figure 5. In this project, there has been an emphasis in understanding the projects as a series of elements: exterior wall, interior walls, roofs, skylights, and apertures. The Patsun Lillie progressed through this phase by making multiple transitions between 2D and 3D drawings and physical models and paired down the themes they wanted to work on, before going back to the axonometric drawing which reveals these intentions at once. Patsun Lillie, MARCH, University of Massachusetts Amherst.

iterative, as the students learn to operate different platforms and think about their project simultaneously. Then the development of drawings, often populated with many elements, and using layering and superimposition requires multiple iterations and adjustments. At the conceptual level, there is also an embedded slowness as each student has to think through and make sense of what they have made. At times, the drawings may indicate a clear path, but often, assembling, adjusting and working through the drawings, as they straddle between the abstract and the spatial/ formal modalities are not immediate. Additionally, the realization that what is made digitally and what is made manually are not necessarily compatible, and that arriving from one to the other may need steps, thinking and work, is an important discovery, that is discussed at length and embraced. The distance between the different types of drawing, and the dialogues that ensue make the students realize that there is a wide range, between one's idea and its different manifestations, and as the students gain awareness about what type of drawing may be more productive to serve a certain purpose.

One of the most important discoveries of the studio for the students, is to experience that there is no one solution, no unique and quintessential drawing, no precise answer. To establish this, the studio is intent on exploring, discussing, thinking together, and collectively, in drawing and in words, to support each

student's process and build upon the discoveries they make at each turn. The students are told from the beginning and get to appreciate and internalize the fact that they are the expert on their subject of research, on the phenomenon they are curious about. In other words, it is their interest and their thinking that moves the project forward, and their agency that modulates their progress. Building on that premise, there is also a discovery afoot that progress in this studio is not always a linear matter. Throughout the semester and over the years, the students witness that while they may have done better for one of the segments, others' progress may come sooner or later, and that the project progresses in arcs and fragments. Sometime, witnessing another person's breakthrough or stalling, can become a moment in which each student understands something about their peers work as well as their own. Noticeably, the tone and demeanor of many of the reviews, resemble seminar discussions, in which the students would feel compelled to talk about each other's work, in the way they understand them. So while part of the peer to peer learning and connection stems from learning and operating software, the curious nature of each student's subject matter, allowed for interest and conversation in both formal and non-structured ways.

The extremely restrained and highly specific parameters set for each phase of the projects, and the insistence on large, highly

detailed, yet skeletal appearance of drawings (no rendering, no color, specific type of drawings requested at each turn) make is so that the most apparent efficiencies of the software are not immediately embraced. The first series of drawings (often understood and rendered as two dimensional, whether planimetric or sectional, have to be adjusted only through lineweight and tonality controls. Therefore the suitable drawing, according to the student and based on discussions with the instructor, is only achieved by printing, adjusting, and re-adjusting. The spatial considerations associated with project two, which requests the students to focus on a room-size activities are asked to happen through an axonometric which allows them to see the layers of 2 dimensional drawings but insist on working in 3 dimensions, ...

CODA

The constellation of work presented here, suggests an attitude towards making drawing productive and creative in a beginning design context. By aiming at making time still and slow, embracing revisions, translations, and abstractions as modes of operation for the studio, the students are encouraged to find their way through drawing. The studio aims at honoring a process of thinking and drawings which will in turn open avenues to produce more precise programmatic and spatial requirements. By resisting the idea that the drawing is only a blueprint for construction, the process instead encourages a cycle of iteration and revision, emphasizing drawing in series and embracing different types of drawing for different projects and their phases. Here drawing as a noun and a verb is at work to both simplify and make complex the process of design. Giving students agency over what they make, the studio aims at enabling them to project, revise, analyze and make again. They come in the studio not knowing how to draw, and by the time they finish the studio, most are capable of drawing complex and multi-faceted renditions of what they imagine. As a beginning design studio, there is hope is that a productive and confident mode of working, a form of scrutinizing through drawing, becomes second nature to the student in the process of discovering and giving form to the object of their curiosities.

ENDNOTES

1. The work of the studio has been discussed in two previous instances; A shorter presentation on the work of the studio has appeared in Pari Riahi, "Delayed Processes", in *ACSA 107th Conference Proceedings* (Pittsburgh, PA: ACSA Press, 2019), 541-546 and in Pari Riahi, "In Curiosity We Dwell, In Slowness We Draw", in *Approaches to Drawing in Architectural and Urban Design, A Collection of Essays*, Edited by Fabio Colonese, Nuno Grancho, and Robin Schaefferbeke, in preparation, projected publication date 2024.
2. Robin Evans, *Translations from Drawings to Building and other Essays* (Cambridge Ma: MIT Press, 1997).
3. A range of engaging pedagogical experimentation have emerged in the past decade. Among others, the Generic Sublime, by Ciro Najle, which documents a series of studios conducted at the Harvard Graduate School of Design from 2010-2013 is a critical example. Ciro Najle, *The Generic Sublime: Organizational Models for Global Architecture*, (Cambridge and New York: Harvard Graduate School of Design and Actar Publishers, 2016)
4. There is no discussion on the merits of an efficient work process. However, the studio resists the often-misleading immediacy and seeming efficiency that comes from using the tools in their default mode. Interested in making the students proficient in the use of digital media, the studio insists on resisting such generic renditions by celebrating bare drawings, working with line weights, transparencies and half tones only, and adjusting and re-adjusting the drawings multiple times.
5. Paul Emmons, *Drawing, Imagining Building: Embodiment in Architectural Design Practices* (Abingdon and New York: Routledge, 2019), 216.
6. Wigley's piece is primarily concerned with the shift from the white page of drawing to black screens and its implications for architects in 1960s, yet his words resonate beyond the specific premises of his study as a larger observation about the nature of the digital drawing. Mark Wigley, "Black Screens: The architect's Vision in a Digital Age" in *When is the Digital in Architecture*, ed. Andrew Goodhouse (Montreal and Berlin: Canadian Center for Architecture and Sternberg Press, 2017), 182-183.
7. The eponymous work of Albertus Seba is among the widely circulated references in studio. Albertus Seba, *Cabinets of Natural Curiosities*, (Köln: Taschen, 2015).
8. Among other references and precedents for the studio is Wunderkammer, offering a contemporary, and primarily architectural counter point. Tod Williams and Billie Tsien, *Wunderkammer*, (New Haven: Yale University Press, 2013).
9. Tsien and Williams, *On Slowness* (manifesto on their website: <https://twbta.com/and-also/on-slowness/> Consulted on October 1, 2023). While Tsien and Williams emphasize a direct link between hand drawing and slowness in the Slowness of Method section, I believe that this slowness, even if the medium is the digital, still prevails.