Building from Within | Building from Without

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Introduction

Building from Within/ Building from Without offers, as resolution to the inside/outside dichotomy, a third condition: the state of being hidden. The latent disclosure of what connects the unapologetically transparent to the purely opaque demands spatial secrecy and utmost discretion. The Secret Room silently guides the pilgrim through what would be an otherwise indecipherable, impossible and impenetrable labyrinthine construct.

We start from the very small elements of architecture—the ones situated in the immediate vicinity of the body— and use the hand as a lens for our discovery. We then use the body as a means to understand medium elements that surround the body and are partially accessible to the hand. Last, we arrive at larger architectural elements that connect bodies and house communities.

In this way, we make a transition from the composition-oriented foundation studios and anticipate the extra-large elements of architecture that structure urban settings. The first two exercises serve as collective research towards the third and final exercise.

Design problems are taught by means of anomalies while employing spatial grammar – such as formal and programmatic bends, skews, expansions, extrusions, merges, yields, twists, interlocks, lifts, carves, fractures, shears, imbeds, and punctures – in order to build the narrative.

Sampling becomes the tool used to negotiate between unique site conditions and their implicit constraints. Close attention is being paid to apertures with their implied, yet absent, volumes, which become part of the fluid circulatory device. While isolating specific variables in the design process, questions are approached with myriad external information at the detriment of having no internal knowledge. Consequently, the lens of discovery shifts from visible analogies and opens up possibilities of endless spatial permutations.

Background

The second year undergraduate studio sequence taught at the University of Cincinnati – School of Architecture and Interior Design – is designed to fit in between two carefully choreographed, yet syntactically distinct pedagogical agendas.

The first one, structured in two parts – *First Act* and *Second Act* – tackles through simple exercises unassuming frame, plane, and mass studies [1]. At a first glance and in a seemingly Bauhaus-ean approach, students are alphabetized in basic compositional theories. However, throughout the course of the two first year architecture and interior design semesters, students become well versed in concepts such as clusters, abundancy, scarcity, and systemic thinking – notions commonly found in mathematical and computational theory – which go beyond the *less is more* idiom and that are, in no way, minimal – although, minimalistic-ally approached. By flexing the cubic armature, field conditions are charted through careful observation, inquiry, and self-awareness. Taught and coordinated by like-minded educators, students are not *talked at*, but lead to misbehave in solidarity by blending disciplinary boundaries. In this way, beginning design students learn core principles, but more importantly, to question and transgress the traditional [2].

The second pedagogical agenda, entitled *Zoomable World/Misbehaved Tectonics,* introduces structural precedents – grids, shells, vaults, domes, and membranes – taught function of material *operations* and their implied or counter-implied *operative* processes [3]. The sequence is therefore iterative in nature and places importance on the thought process, and *not* on the specific skill set. In the spirit of the *First Act/Second Act* sequence, students arrive at personal catalogues of tectonic possibilities though a process of incrementally mutating the chosen precedent. Implicitly, the studio stresses concepts of interdependence, adaptability, fluidity, and mat-building. *Architecture as space* is replaced with *architecture as a field condition.* A series of interrelated parts eventually coalesce to weaving an ever-evolving whole. This *work-in-process* remains in progress [4]. As such, computational thinking becomes embedded in foundational design thinking independent of technology. Specificity in automation, given its immediate downfall to obsolescence, is thought of as a liability and not as an asset.

Means and Methods

Surrendering to operating under the incertitude of time, yet without hesitation, albeit after a luscious amount of observation demands a closer look.

Oscillating between the ludic and the investigative, design problems are taught at times with lots of internal information at the detriment of no external data, as in Building from Within. Contrary, Building from Without is approached with excessive external knowledge and no internal expectations. How one registers onto another is captured in a median exercise which alludes to an archaic Romanian architectural typology, the clean room.

As a general position, scale is at first learned only to be eventually abandoned. Departing from Juhani Pallasmaa's Thinking Hand, the human being is thought to have evolved in direct connection to the tools she developed [5]. Similarly, given the uniform proliferation of digital tools, the computer must be considered in terms of its cognitive implications. As such, potential is seen in the possible scalar misalignments generated by the ease with which one can zoom in and out in the undogmatic virtual environment.

As proposition, typology is taught in relation to architectural elements [6]. The Horizontal Index registers how body measurements have repercussions onto built form, in the manner of Le Corbusier's Modulor [7]. The Vertical Plot implies that there is more to be read than it is to be seen. Similar to Archizoom's No Stop City or Christopher Knowles' Typings, walls –being more than initially apparent – can speak [8-9]. At last, The Diagonal Aggregate proposes a new architectural element, the envelope. In opposition to the culture of subtraction over addition [10], The Diagonal Aggregate rejects the less is more Modernist cliché in favor of the more is more, and more, and more abundant alternative. In this case, architectural elements are not seen in isolation, but collapsed, scale-less, joined, grouped, aggregated, Boolean-ed, and enveloped. Unapologetically pleasure-full, and in contrast to the previous exercise – where form was thought to speak, or in its secrecy infer or allude that there's more to be discovered than to be seen – here form is speechless, mute, and opaque in a fashion similar to Filip Dujardin's Fictions [11].

Finally, as imposition, students are prompted to implement operative design, in this way providing for a methodological continuity to the first year foundational studios [12]. This time however, the technique is split in smaller bites. At first architectural addendums are developed function of few (or single) operations – which can be further divided into additive (expand, extrude, inflate), subtractive (carve, compress, fracture, grade, notch, pinch, shear, taper) and displacement (bend, skew, split, twist). Secondly, many (multiple) operations are employed – similarly subdivided into additive (branch, merge, nest, offset), subtractive (embed, extract, inscribe, puncture), and displacement (interlock, intersect, lift, lodge, overlap, rotate, shift). Finally as a bricolage of the former, by employing aggregations (reflect, pack, stack, array, join) students are incited to develop blended operations. These, once again, remind of the first year highly shaken armatures, which now –not quite parametric, not exactly art, not specifically misaligned – begin to depart from the Bauhaus school of thought and develop autonomous significance (Figure 1).

Figure 1: Blended Operations: First Act/Armature, Taught and coordinated by Prof. Vincent Sansalone (left); Fictions by Filip Dujardin (center); Building from Without by Eddie Simpson, taught and coordinated by Prof. Mara Marcu.

Within: *the body*

In the spirit of Le Corbusier's *Unité d'Habitation* in Marseilles, students began by indexing various horizontal measurements to arrive at an *Intimate Modulor*. Following, various arrangements were studied in speculative *panel exercises*. Though the implementation of *few (single) operations* these sectional indexes were quickly three dimensionalized in a series of formal vignettes. They ranged from visceral body/form articulations to more ethereal relations (Figure 2).

Incremental combinatorial possibilities were then catalogued. Final aggregations, whether sprawled or stacked, begin to register matted building attitudes in which the granularity of the hand dominates the coarseness of the envelope [13].
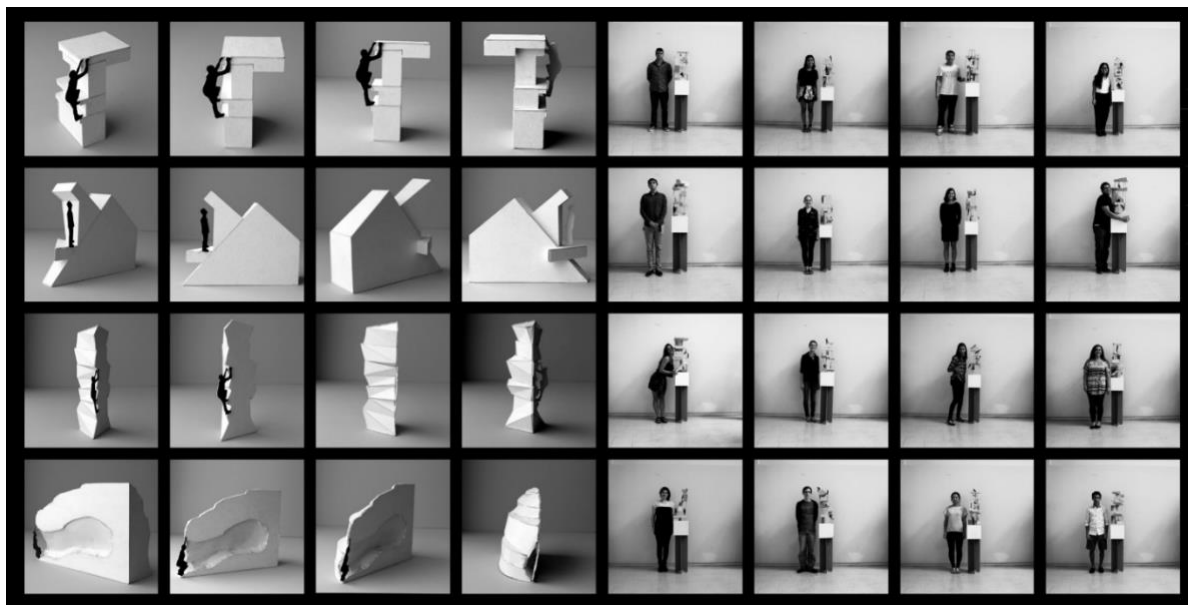

Figure 2: Intimate Modulor, Taught by Prof Renee Martin (left) and Prof. Ryan Ball (right). Coordinated by Prof. Mara Marcu.
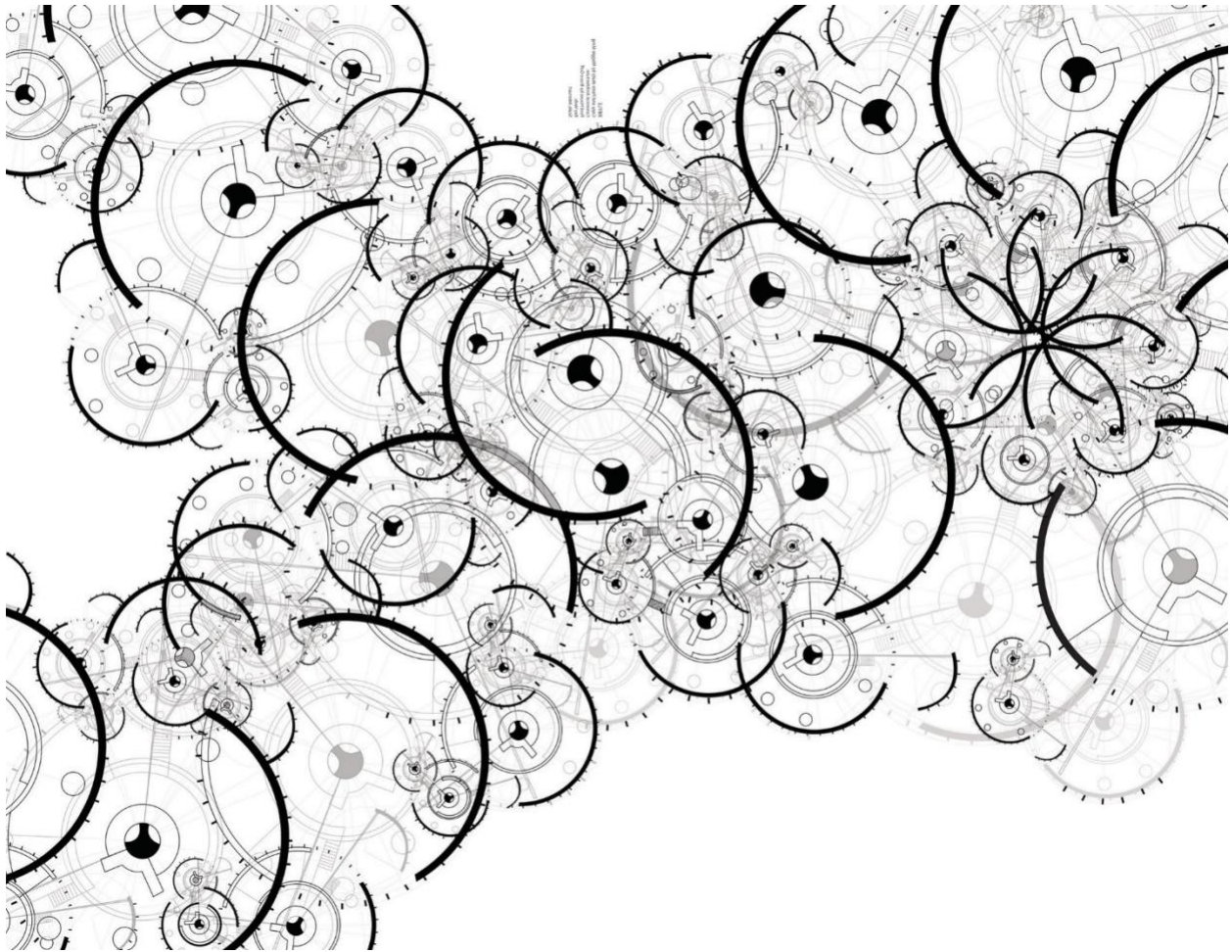
Figure 3: The Bruce Goff Vertical Plot, by Shiqi Ming. Taught and coordinated by Prof. Mara Marcu.

Secret: the building

Transitioning from matted buildings to mat building, the median exercise exploits and exaggerates architectural styles. Function of *many (multiple) operations* students are given permission to emulate and imitate the vertical plot in the style of a personal favorite. As such, field conditions begin to saturate scale-less sheets of paper with speculative stokes from the greatest. From Burnham and Root to Bruce Goff and Frank Lloyd Wright, vertical memes elaborate on the unique touch of each starchitect. Within the new found territory – may it be the heavy bearing stamped plot, the unexpectedly undulating, or the crosshair vertical one – intimate pockets of spaced begin to chart secretive maneuvers (Figure 3).

Various zoomed-in studies being to isolate what the philosopher Mircea Eliade calls *The Secret Room*, or *Sambó* – an abbreviation for Shamballa. *The Secret Room* refers to an ideal chamber essential in one's terrestrial and spiritual life, only fully experienced in its relentless disclosure during childhood [14]. It also alludes to the archaic Romanian residential configuration in which the dining room is replaced by what is called *the clean room*. The clean room is generally locked, kept clean and only used to receive guests. Children are often denied access, due to maintenance considerations, and tend to manifest an avid curiosity in regards to what lies

beyond the locked door. Through extrapolation, the clean room becomes a symbol for a lost or denied paradise.

In search for the forbidden, yet intensely pleasurable, the circulatory device gains complicity (Figure 4).
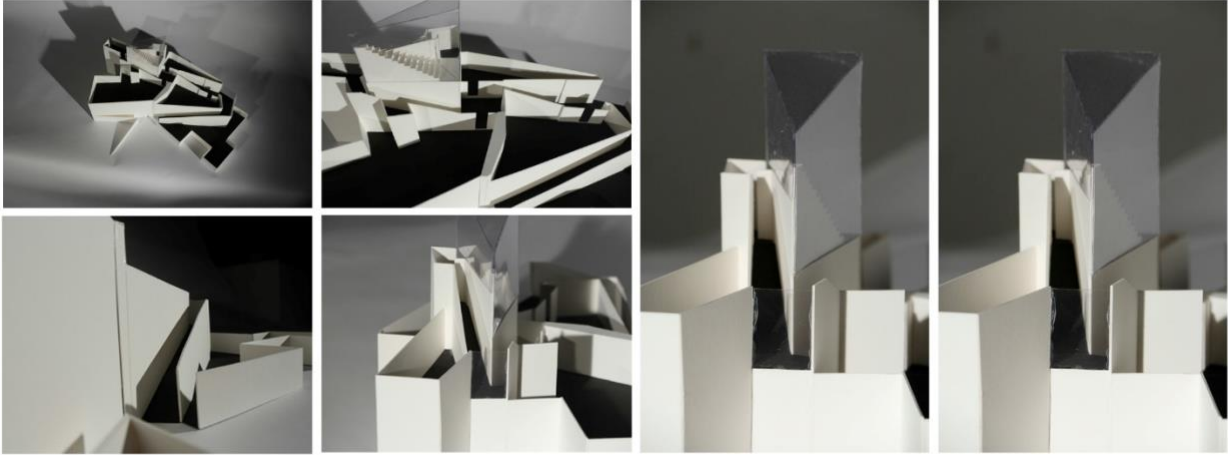

Figure 4: The Secret Room, by Russell Zimmerman. Taught and coordinated by Prof. Mara Marcu.

Without: *the built*

Finally, *Building from Without* employs aggregate operations to develop blended conditions in which the matted building within the mat building is replaced by the building of the mat as a *diagonal aggregate*.
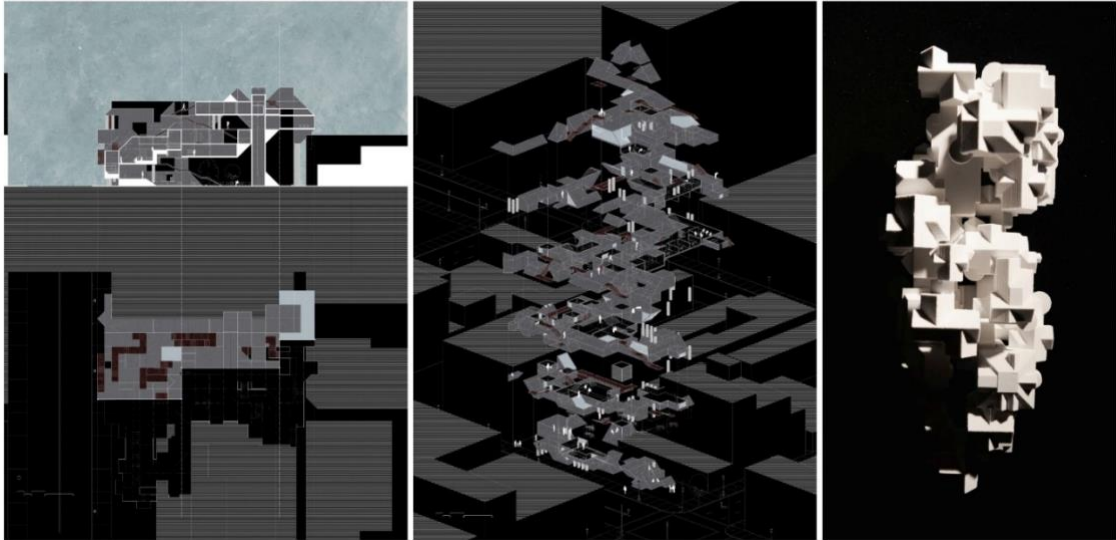

Figure 5: The Diagonal Aggregate, by Eddie Simpson (left and center) and Chen Ludan (right). Taught and coordinated by Prof. Mara Marcu.

This time not site-less, the *Without* is found in a highly urban setting. While employing cross programming and completely disobeying the scalar approach, students are prompted to reveal novel form/function relations. Program therefore is not given but discovered. Similarly, students gain dexterity at inhabiting the highly

mediatized architectural poché. Through repurposing and appropriating, it either becomes part of the circulatory device, or enhances human scale as urban furniture, transforming the building into the city living room (Figure 5).

In this way, we anticipate the zoomable condition of the following studio sequence, which in our case is conveniently sequenced after the first CO-OP experience. Though intentionally dissonant, this approach lies at the core of our belief that profession and academia do not need to build on one another in redundancy to reinforce each other.

Conclusion:

In closing, the value of *Building from Within/Building from Without* is in not knowing, in approaching design problems in an apparent vacuum, in that there is no vaccum – but that there is infinite benefit to the pretense, in that programs are to be bread – not given, that scale is much more non-linear and complex than initially perceived, and that importance shouldn't be placed on teaching specific methodologies, nor skill sets, nor technologies, but on the cultivation of curious, speculative minds that are open and resilient to transformation.

Implicitly the sequence also proposes a reinvigoration of the architectural model and embraces its definition of an isolation of behaviors used for the study of specific conditions [14]. As such, many iterative models are needed to study a catalog of architectural traits.

Last, but not least, and although not minimalist by any means, *Building from Within/Building from Without* firmly rejects the comprehensive approach at a foundational level – in representation and in methodology – in favor of a ludic spectacle of disparate pretenses.

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