

Moveable Feast

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Abstract

The Moveable Feast installation was a two week foundation project in a third year architecture studio entitled Physical Gastronomy. The pragmatic goals for the installation were to present particular material techniques and their associated values of making maximum use of minimal materials. The epistemic goals in developing an installation to host an exquisite meal was to move from an architecture of the object to an architecture of the event. Thus, shifting focus from the installation as a thing to the phenomenal and social experience of the event the installation enables. Presented here is both a sequential, day by day photographic synopsis, and more impor-

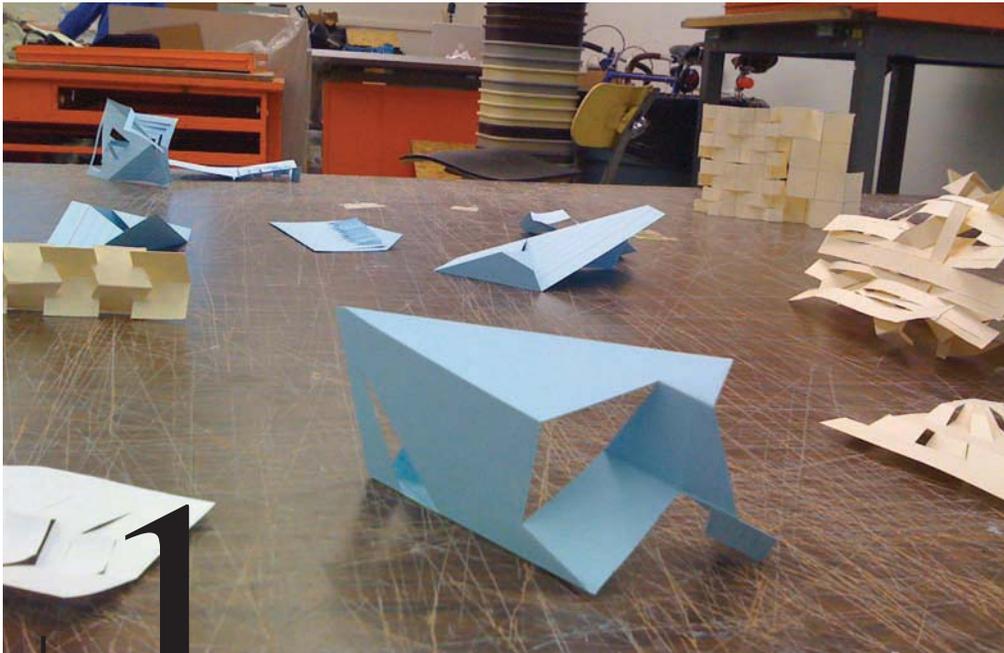
tantly, the students reflections on the design process. Situated in the current context of digital fabrication, their reflections encourage material play, testing out through full scale, and help to define the place of precision in the design studio.

Project Goals

The installation was to be self-supporting and make maximum use of minimum material, ideally eliminating waste altogether. It was to be designed to be easily assembled, disassembled, and reassembled. Aesthetically, the installation was to establish a sense of delight and ambience through variation.

Rather than begin with form, the design process focused on developing a material system in which form and enclosure develop in a bottom-up fashion. The material system was to be developed from planar materials such as chipboard, cardboard, or potentially plywood. As a system, the joint was to be an integral part of the system and designed for ease of assembly.

Three techniques involving cutting, scoring, and folding were presented to achieve these goals. Like expanded lath, a technique of expanding pattern was presented along with its limitations that it is not inherently self-supporting. Folding, exemplified by folded plate structures, was presented with emphasis not only in how a piece might



1
day
April 4



Material Play: 2 hour charrette with flexible materials on first day. ▲

develop strength from folding on itself, but how a fold might connect to an adjacent piece creating both structure and joint. Finally, pattern tessellation was presented as a means to 'pack' an entire sheet without waste.

Researching Design

While the investigation of this material system is a form of design research, the evaluation of the installation process is a form of researching design. Situated in the context of digital fabrication, this project only uses digitally driven fabrication tools in the end for precision and production. While the project itself was conceived in anticipation of the school's first laser cutter and CNC router; due to administrative and installation conflicts, these tools were not available. Consequently, in the second day of the project I made

contacts with our Packaging Department in Industrial Technology and was granted about 8 hours time on their Artios Kongsberg Cutting Table - a CNC tangential knife used for producing packaging prototypes and short runs. These circumstances are not inconsequential. Having extensive experience with digital fabrication tools and teaching with them at several other universities, not having immediate access proposes an alternate question: what is the impact on the design process if these tools are used simply as tools of production? What is the place of precision?

The day after the installation event, the studio gathered around for a recorded debrief discussion. Their concise and illuminating comments are summarized below.

Material Play

Material play was essential to the success of the project, beginning the very first day with a two hour charrette. Rather than impose rigid materials to begin with, I ask the studio to play with paper; then index cards and manilla folders, and only several days later in cardboard. Initially there is frustration, as they realize the slightest change in material thickness affects the design outcome. What I had not anticipated was how working into design constraints, enabled their willingness to experiment:

"It [starting with cardboard] would have cramped the imagination. To start with cardboard it is not as flexible, but paper gave us the feeling that we could experiment with anything. And then from there we could take the cardboard and modify it instead of just throwing it out."



Working into Material Constraints:
Full Scale and Cardboard introduced.



day **3**
April 7

"I think we were all just willing to experiment too. All of the things we were working on had the potential to work with and experiment with. We were all just willing to do that." Further asking what about the project gave that willingness to experiment: "Its playful. We were making something and working together."

Common Commitment

Structured around the three techniques I presented to them, expanding pattern, folding, and pattern tessellation, the studio proceeded in rapid cycles of material play, to categorization of these into their associated techniques, to small research teams to further explore like techniques. Each studio member was expected to actively explore a series of design options, in which these preliminary mate-

rial studies were presented as studio research with any particular proposal free for someone else to pursue. As one student recalls:

"At one point you said something like, 'this is a class project, it is ok to steal.' I thought that was so refreshing in an architecture studio because we tend to be territorial. I think that just opened everybody up, and that made it so much more of a class thing, rather than an individual thing."

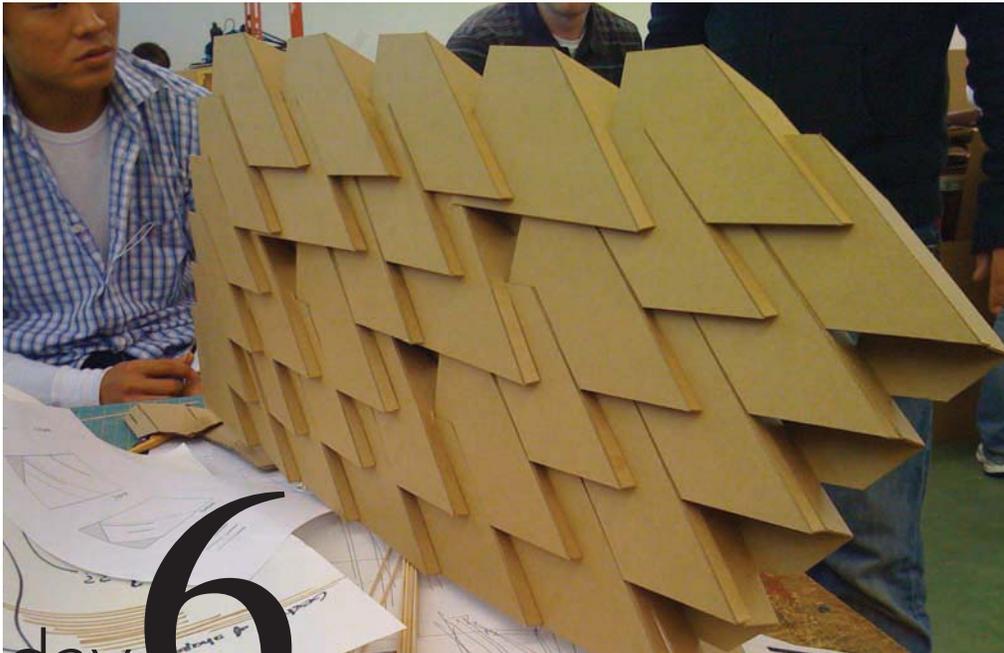
The opportunity to exhaust an idea, even if not taken up in the final installation, gave a sense of investment in the entire process:

"One thing I loved about it was the opportunities throughout the thing to break away into separate groups, and



Test it Out: small groups create four different module options at full scale and scaled maquettes of event space. ▲

Full Scale Prototype: what was to be the selected module became convincing through a full scale prototype. ▼



day 6
April 7



Zero Waste: flat sheet with cut and fold lines. ▲

Testing at Full Scale: While a compelling solution at model scale, at full scale the solution was too light and flexible. ▼



really follow what ever interest you have... We all worked on a separate thing for a couple days and put a ton of time into it. Even though it didn't work, you feel like you still contributed to the entire project by working on that separate design. You have investments, even if it ends up not getting built."

Full Scale: Proof of Concept

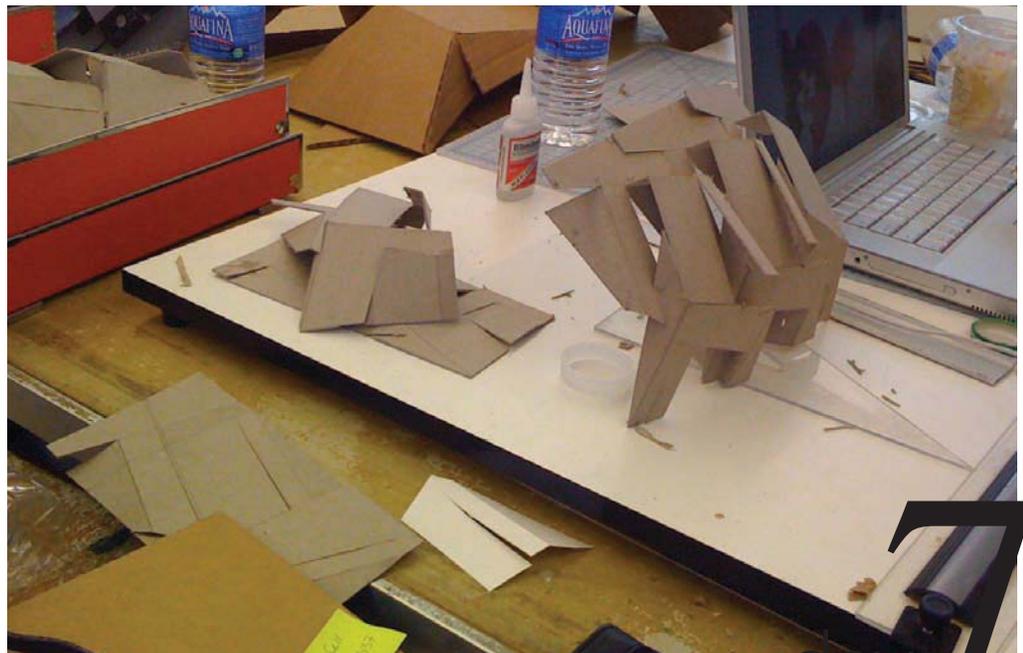
It seems there is a pedagogical presumption that student's learn from building at full scale. Even in this very temporary installation with very impermanent materials, the student's comments confirm the relevance of testing ideas out at full scale:

"You can't learn by doing these little tiny models, because once you get it at this full scale, well, a lot of us were saying, it takes on a life of its own....In the end,

we all had to collaborate to figure out exactly what we were doing."

"I think that it definitely proved that a cardboard structure could stand up to enclose human scale space, it definitely put a lot of faith in the particular system."

"It got me excited about the project just because of the scale and because of the fact that you could see yourself in the space. Then also not just seeing the system work, but seeing how well if it is like this, what if we do this, what if we do this. The fact that we cut a whole out of it and said, well it is nice to see through, but that is not the right solution. It just developed from there, and seeing it full scale was really exciting."

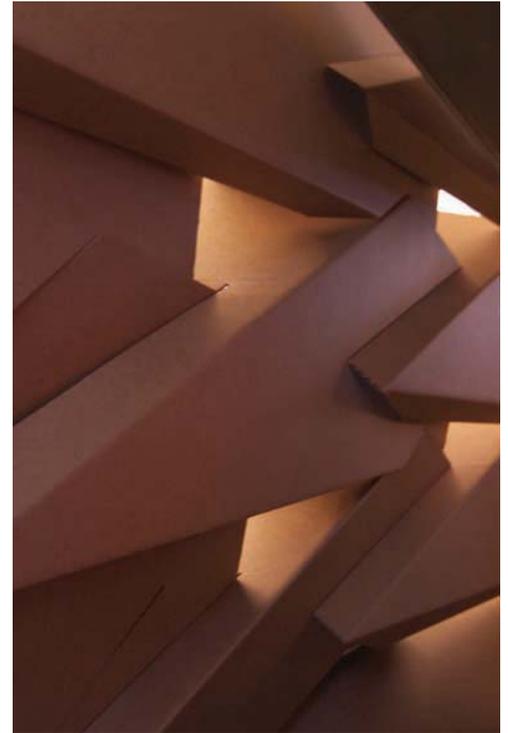


Place of Precision

In *The Nature and Art of Workmanship*, David Pye wrote about the workmanship of risk and the workmanship of certainty, noting that certainty is built upon risk. Through this, he critiques the false dichotomy between the hand vs. the machine, and instead suggests that it is about precision, when precision is warranted. The students comments seem to confirm Pye's description of risk and certainty, and furthermore, they identify the place of precision. In a previous studio discussion, one student commented that because of the CNC, her relationship to the work was different. Asked again what she meant by that:

"Yes because then you end up with a group of worker bees, basically. You end up with a group of laborers and a group of people with the whips. With this, none of us had to do that. We design it, we think about it, it is more intellectual I guess, and less labor, and you feel like your are doing something unique."

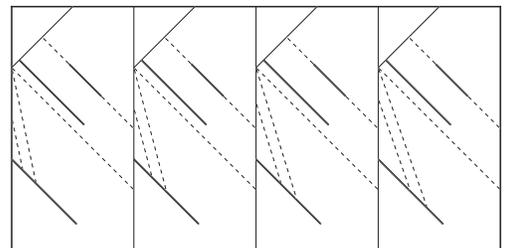
"As opposed to something like a chair, which is going to be about craft, in this the craft is in the assembly and not in the producing. With a chair there is so much time sanding, it is like this handy artisanship, but with this it wasn't an artisan thing, it was purely an assembly thing."



Proof of Concept: testing variation and openings not in original prototype. ▲



◀ Studio introduced to CNC box cutter and run small test for proof of concept. 4-up nested cut file at bottom. ▼





Testing Assembly: the initial batch run was quickly assembled indoors, disassembled and then reassembled in a larger free standing curved configuration outdoors. Design completed.



"When you have the CNC router, you don't doubt your craft....if you have it done with the CNC router and it fails, you go back and think about your design, instead of second guessing if the craft was perfect."

"If we had done [it by hand] and then our thing fell, we would be thinking, 'man, if we had just cut it better.' Or if we had had more time and been more precise. But now we can just purely look at it objectively as design, and we can say, oh it is the design of the leg."

As the student's comments reveal, the ability to precisely fabricate their ideas at full scale was more than simply about production, but operated as a kind of test, or proof of concept. While certainly these could be done by hand, and in fact, their early full

scale studies were all done by hand, they understood the precision operated as a kind of verification of their design.

Ephemerality of the Event

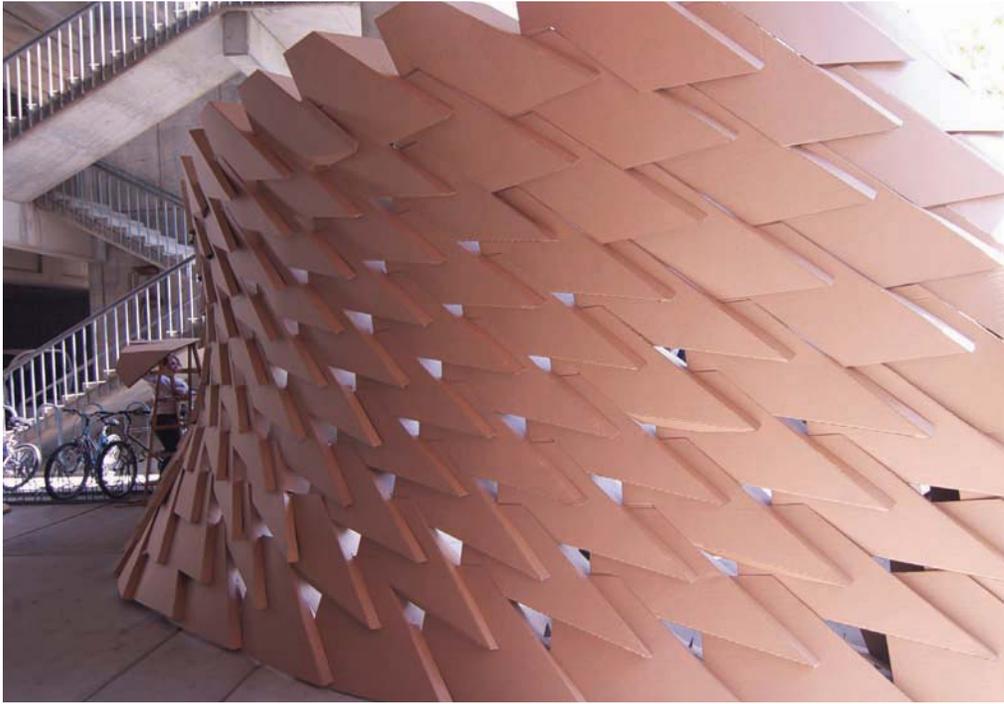
My concerns with doing installations is that students see it as an object and not a new context from which new experiences take place. Establishing the installation as a setting for a Moveable Feast was intended to shift emphasis from the object to the event. One student's comments, in a very humorous way, supports this:

"Can you imagine if we set this thing up in Berg [the gallery], set up the halogen lights, invited people over to critique it and eat minnie muffins? That would suck. It would totally ruin it. Because you are so much more forgiving when



day
April 14

13



Final installation on Sunday afternoon. At their discretion, the students assembled and re-assembled the entire installation twice testing out configuration variations and location as the open ends required a fixed point to attach to. Like a tensile fabric, the elliptical shape took on a nice anticlastic curve.

you are just enjoying it and not like trying to turn it into this art piece."

"The time we had in it was very limited, I think it made it really special. We knew we could never have that moment again. I kind of knew last night it wasn't going to last. We would never have again a night that it was all lit up and we would have time together and hang out in it. So I thought that made it really cool that it was a one time thing. There is no going back, you have to take it in."

In the end, due to the very light-weight nature of the installation, winds very typical of the wind tunnel effect of this staircourt, blew the installation over the next day. To my surprise, the



students saw this in a positive light, as they all agreed that it was designed for that event, the meal, and while short lived, it was significant. One student summarizes quite nicely:

"It is almost how a nice meal is anyways, because you spend all of this time pre-paring, the presentation, and 'ta-da' and then in 15-20 minutes it is gone, and its a pile of little crumbs on your plate, and that is it."

Students went home, many dressed up, and returned for an exquisite meal prepared for them in the ambience of the early evening.

