Turning our Attention from Product to Process— A Design Studio Methodology which does not begin with 'Concept'

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Introduction

I once heard a lecture by Peter Eisenman where he relayed the story of how a Japanese client had chosen him for a commission. He was conveying this story in the context of a discussion having to do with the direction our global culture was headed. Greeting the client who had arrived at his office, Eisenman began asking questions as to the nature of the building. What was the building to be used for? Where was the site? etc. The standard questions. The client held up a magazine pointing to the front cover, and in his limited English said "cover". Perplexed, Eisenman kept up his inquiry with the same response. He suddenly realized that the client sitting before him had no program, or at least, it didn't really matter what the program was...for what he actually wanted was a building which would make the front cover of the magazine. It was the power of the final image which mattered.

The Dilemma

One of the most difficult tasks to accomplish in architecture and environmental design programs alike, is turning a student's focus of attention from an imagined image of the finished product to the purpose of working. I believe one of the crucial factors contributing to this obsession with image and product within our schools comes from the strategy adopted by many of us of establishing an overarching 'concept' at the beginning of the project which serves to guide the design towards its completion. This method ensures a trajectory of work that attempts to match three-dimensional form to a concise, pre-established ideal. The texture of this ideal usually involves some sense of what the product will 'look like', and because I will be referring to beginning design students here, these initial concepts are almost always both simplistic and reduced, essentially tethering each student to the limits of their current level of design sophistication.

Identifying a guiding conceptual framework before designing is a normal and clearly efficacious method of practice. What I question here, is its application in the context of foundation design education. Working within this traditional strategic formula in an academic context makes for a design process that tends towards an intellectually laborious reinforcement of the original conceptual declaration *and* its preconceptions. There are, of course, developments and departures from this trajectory, but by and large this trajectory remains the focus of a student's project, and any serious departure from it is seen as problematic. This method of working is generally reinforced at final reviews by us, their professors, with questions concerning evidence as to how their initial concepts are manifest in the final product. Therefore, the discussion tends towards a game of matching words and ideas to form rather than to revelatory and instructive criticism.

Issues of materiality and construction are rarely if ever dealt with effectively through this basic methodology. During this process of work, students tend to fixate on plan and three dimensional manipulations of form. They never seem to get around to ideas of materiality, structure, detailing, light, color, texture, sound etc., no matter how much time is given to the project in hopes of eventually reaching these crucial areas of design education.

This difficulty is also closely tied to the frustrations that many of these beginning design students have in grasping and applying the lessons being taught in their building construction, materials and structures courses. The "cultural" gap between technical and studio curricula is as debilitating as it is well known. Most of our students have very little, if any, previous experience with building anything, so the distance they have to traverse in understanding connections between the content of these courses and what they see in the studio (or reality) is enormous. They cannot simply be left to synthesize the connections by themselves.

In response to my own frustrations in the foundation design studio with the shortcomings of the 'concept first' method of teaching, I devised a studio project which attempts to find another way of working.

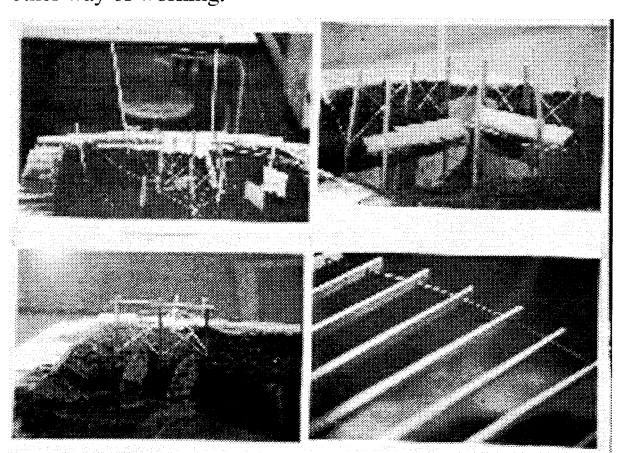

Fig. 1. Lukasz Kos - Process of exploration

This project is focused on a complex process of exploration and discovery rather than on producing a final product that 'matches' an initial concept. My dilemma was to develop a studio project which would deal *directly* with the process of building and the nature of a variety of 'forces': materiality, detailing, structure, light, inhabitation etc. It was crucial that this should be done in a manner that would use these elements/forces not merely as technical concerns, but as essential to the revelation of design concepts and their clarification. Furthermore, this should be done in such a way as to allow students to learn by playing with them in all their simultaneity.

The Process

The process described below uses an empirical method where observation and experiment are at the forefront of learning. Learning, process, and conceptual clarity are allowed to emerge in the careful contemplation of the sequential events which result from making and reflection. A student's project, and its lessons, are found through a series of events which happen right before the students eyes and hands.

We begin with an investigation of standard construction practices undertaken through a series of construction site visits.

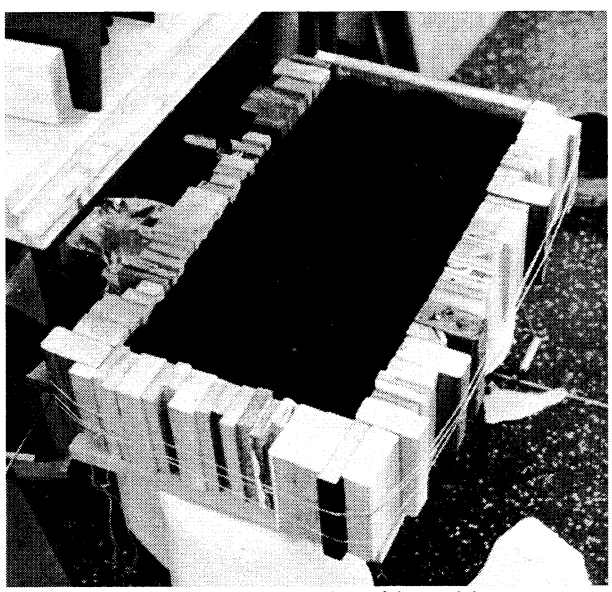

Fig. 2. The earth box - The wooden edges of the earth box are not permanently fixed. The friction of the blocks and the pressure of the earth allow the tension cable around the blocks to be tightened, holding the entire box 'in place'.

In the studio, the students work in a 16" x 24" x 8" deep earth box, recalling a childhood site of construction - the sandbox. Here they are able to begin investigating materiality, detailing, structures and the sequencing of their own constructions through direct action in a spirit of creative play and exploration. For many students the experience is one of re-discovery and slowing down. Students need to be slowed down, and having them work directly through physical modeling from the beginning of the project helps in this regard. The ability to play, almost forgotten after the long drought of their previous formal education, is rediscovered in a new and more mature form; it is pleasurable, but it is also serious and difficult.

Stage One: (first half)

This four to six week project is divided into two stages.

Students are asked to build a structure which inhabits a site by simultaneously maintaining the following three characteristics:

- to hold back the earth
- to hold up the earth
- to hold itself on the earth

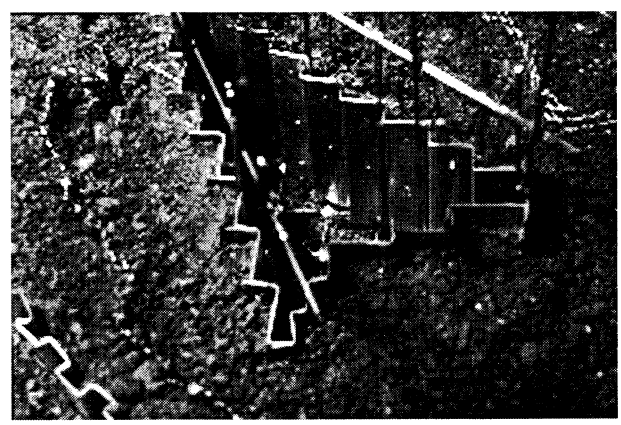

Fig. 3. Quan Park - First moves in the earth.

These 'constructive actions' are to produce a structure designed to skillfully capture and embrace *light and shadow* within an interior space encompassing no less than 30 cubic meters and no more than 50 cubic meters. Students work at a scale of 1:20 with materials which model 'dimensioned' or 'real sized' building material products. Explorations are limited to the following materials and specifications: basswood - to be used in constructions which are surrounded by air; metal - to be used when in contact with the earth; twine/thread - to create tension and make connections; steel pins - to make connections; glue - is only allowed in the construction of laminations, and glue guns are banned from use (they are an excuse to not think about the details); no earth is allowed to be removed from the site - whatever is dug up or displaced, is to be used elsewhere in the project; complete erasures - are not allowed.

This last point requires some explanation: Through the process of their investigations, special emphasis is placed on learning from collapses and accidents, not erasing them. These 'mistakes' are not things to be regretted, but are seen as opportunities and 'gifts' to a process of work, and become generators for

some of the most fruitful events. Within this miniature laboratory a student can speculate on what went wrong or where they did not have enough support or too much support. In this way, the natural tendencies of both materials and form are uncovered and used to generate design ideas, and a kind of archeological history of mistakes and discoveries is disclosed, preserved and built upon.

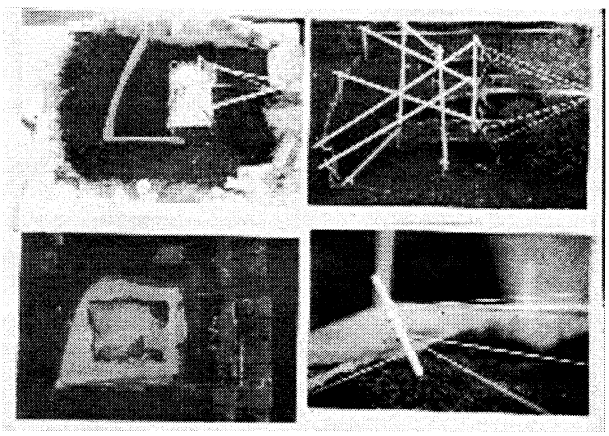

Fig. 4. Lukasz Kos - Process continued...stage one developments.

Photography is used to record significant events which develop throughout the process. By the end of the project these images allow each student to present and discuss their paths of exploration and how certain decisions affected later developments in the design.

Drawings are used in two ways. Students are encouraged to keep a log book of freehand/sketch 'working drawings' where they can simultaneously 'work out' difficult details or constructions in the box. They also produce detailed mechanical drawings of specific stages of an intervention with precision and technical clarity. These drawings include absolutely everything the student has constructed, from foundations to connections, making each constructive idea a part of their consciousness in drawing. In these drawings, they are encouraged to not simply record what is in the box, but to keep designing, allowing the expansion, clarification or altering of designs worked out through building in the earth boxes. This in effect, makes the drawings the most up to date declaration of the stage their work has reached.

The students are encouraged to construct in the box itself. Insisting on this is central to the success of the project. If they are working in the box they are working with all the elements of the project simultaneously, whereas, if they are working outside the box on their table tops, they are working in an abstract space void of forces, stresses, and relationships. Constructions which happen outside the box are generally concept driven. Concept driven projects can be made in such a physical void, but the project I am describing cannot. It should be mentioned that it takes quite a bit of time to finally get them to 'play' directly in the box.

Stage Two: (second half)

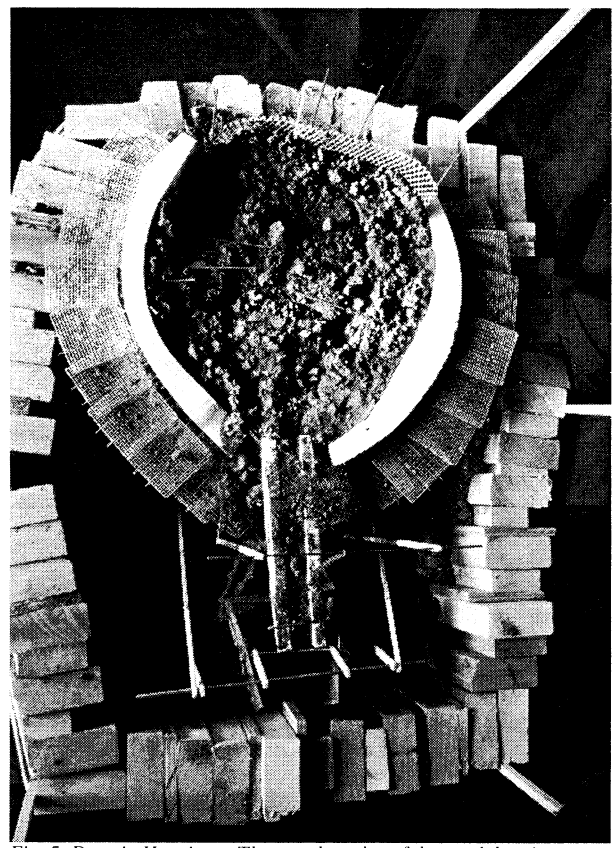

Fig. 5. Darwin Horning - The wooden edge of the earth box is intended to react to the moves the students make within the box. Many students actively engage the shifting borders of their sites as part of their developing designs.

When they have had the opportunity to complete several attempts at exploring the relationship between light, shadow, earth and built structure, they are introduced to a more complex program and an unrestricted pallet of materials. At this point, the realm of specific use and questions about interior inhabitation are added to the existing complex of programmatic issues.

They are asked to imagine that they have stumbled upon the site as it currently exists in their box. The project now asks questions such as: What makes a space a place?; What is this place?; What could it have been?; What could be done with it now?. The questions are directed towards setting up a 'situation' or program of use for their design installations. Thinking about who might inhabit this place and what they might do there

provides a point of departure through an interpretive analysis of the construction they have made. Their thinking about use and inhabitation causes them to adapt their designs and re-address areas which are not resolved or are now unsuitable.

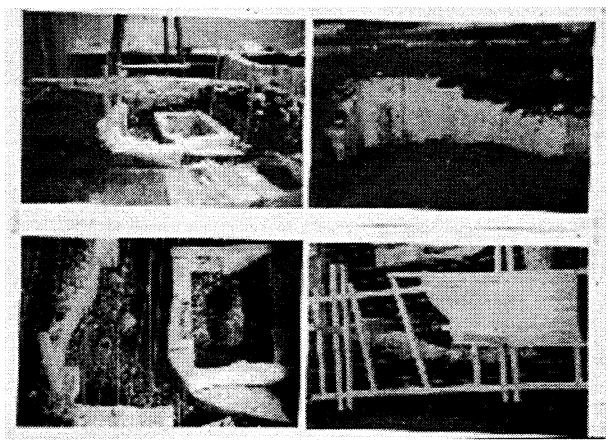

Fig. 6. Lukasz Kos - Process continued...stage two developments.

It is worth noting that this sequence of teaching removes the naming of the program from its traditional role as the initial known entity of a project. In the same way that the concept-first method sets up a trajectory which the student finds hard to escape, so too does the naming of the project from the beginning. If it is named first it is far more difficult for beginning design students to escape their preconceptions and actually think about and explore the meaning and implications of a given program. On the other hand, if the project is guided by an action or activity, or a clear set of characteristics which do not 'define' the end product, students tend to spend their time 'playing' these through, rather then focusing on 'what' they think the end product is. This observational/analytical way of working guides the student to discover what the situation or program of use might be (and mean) in the same way as their explorations reveal details, connections and constructions.

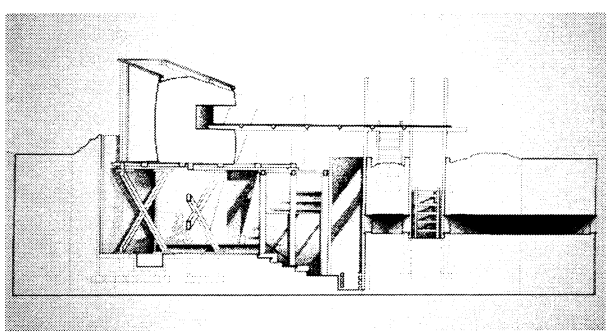

Fig. 7. Joseph McLaughlin - Projects automatically engage section because of the nature of working in, on and above the earth.

The project ends, once again, with a set of drafted drawings representing the present state of development in the earth box. It is very important to allow sufficient time for students to continue their explorations in these drawings, making them an integral part of the same educational process, rather than 'finished' images of a 'final' product. In this way students are learning both effective techniques of drawing and also begin to understand how the process of drawing can continue to give new ideas and an analytical clarity to their work, just as the physical constructions did in the earth box.

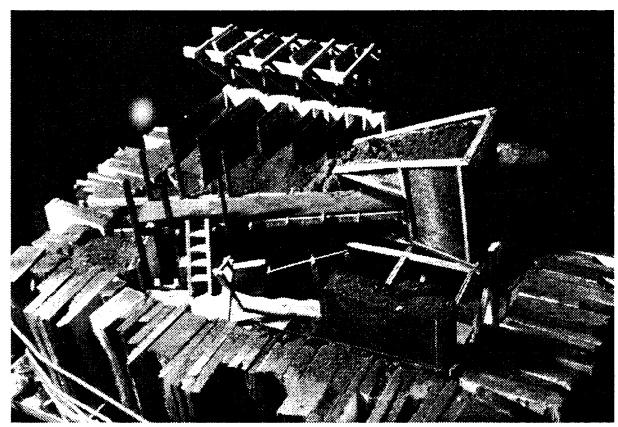

Fig. 8. Joseph McLaughlin - Final stage of construction.

Over the years of giving this project and having observed the events which have occurred within these earth boxes, it has also become evident that the more successful projects simultaneously treat this 'building laboratory' not only as a 1:20 model, but as a 1:1 construction as well. In other words, the events and constructions which occur within the earth boxes are also exactly what they are, and are not only 'representations' of something else.

Summary

This project does not attempt to replicate full scale construction. Instead, the mini-laboratory of the earth box serves as an analog for the physical dimensions of design. It allows 'physical ideas' to emerge simultaneous with the conceptual elements and thinking that must occur in bringing form and relationships into being. Issues such as materiality, structure, detail, color and light do not have to wait in the development of a design as they are part of the students' imagination and thought from the very beginning. Rather than using models in their more traditional role as a medium of representation, modeling is explored as a testing devise, inciting thoughts and ideas from the realm of otherwise 'technical' concerns.

The overall benefits of working in this way:

- Students can learn building techniques and experience the material aspects of design, working at a scale which is not intimidating and requires no prior knowledge of construction.

- Structural and constructional principles offered in technical courses are transformed into design ideas in studio work.
- This process allows students to access creative modes of thinking and hones their observational and analytical skills.
- Mistakes are not penalized but are seen as 'gifts' to the process of work.
- The earth box and physical modeling offer a real solution to helping students understand and work with multi-dimensional space.
- Making through physical modeling allows them to develop a sense of detailing and the sequencing of construction, as well as the role these concerns have in formulating a design.
- Drawing and photography are introduced as documentary as well as analytical tools of thinking.
- Finally, and most importantly, this process alters students' methods of working from the primarily visual to an inclusive physical mode, and does not allow them to rely on preconceptions.

Working through this process constitutes a fundamental shift of emphasis from a final product glorifying the visual, to an inclusive process of thought and physical construction. Designs are not conceived from the beginning but rather develop by accretion, discovery, and reflection. Instead of guiding a project with an initial concept, a student plays to see what emerges that might present itself as a viable solution to the project at hand. This is not a process that attempts to replace the 'concept first - program naming first' methods of practice. It seeks, instead, to clarify methods of *teaching* foundation design that will prepare students to practice with creativity and a thoughtful inclusion of the complexities involved, where concepts and technical requirements are not held as separate thoughts.