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Spatial Themes in a Three Week Project

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INTRODUCTION, beginnings:

In speaking to The Enigma of the First Assignment, the premise of this paper is explained with a studio in which a design project is addressed through sets of rules. Rules fall into three categories: for program, for site, and for assembly. These rules were left open-ended and they provided the first footholds for a student to get to work designing and not ponder the much larger problem of design itself.

The rule systems attempted to avoid two situations: 1) where the student begins to question his/her legitimacy as a designer (I am not good enough), or 2) where the idea of design is understood to be finding a way to express one's uniqueness (How can I be different?). Beginning students must trust that what they are doing is an exercise at which they will get better with practice and in this way prioritize experimentation over solution (avoiding the question, Did I get it right?). Like the first line on a blank sheet, a restriction will often make the problem easier to tackle; it will, in fact, provide a beginning. The intent was to avoid the situation of a "blank page"; the means was through rule systems designed to simulate greater complexities.

The rule systems worked well because they were descriptive, not prescriptive; that is, the inherent open-endedness of rule systems was emphasized while still using the rules to coach the student through the design process. Applying a simple set of rules to a variety of design situations is an accessible first step for a beginning design student. The primary rule system for the studio project being discussed was distilled down to the idea of a 'spatial theme'. A spatial theme is conceived as a form-generating, place-creating, constructionally derived configuration of walls. In form they are very simple but as students use them in multiples, three-dimensional ideas of repetition and pattern clearly emerge.

To make the design problem as accessible as possible the larger problem was stated in concrete terms, as opposed to an abstraction (a 'studio and a garden' as opposed to a 'spatial or material study'). The intention was to: 1) set up a problem without confusion while leaving it exploratory and experimental; and 2) sequence the instructions so that the student needn't get the big picture at first but could proceed step by step and still arrive at a solution. This was not to imply that design is a linear exercise but to get students moving along the path without their having to know what they were going to design. Keeping the attention off the big picture was a major component of the success of the project.
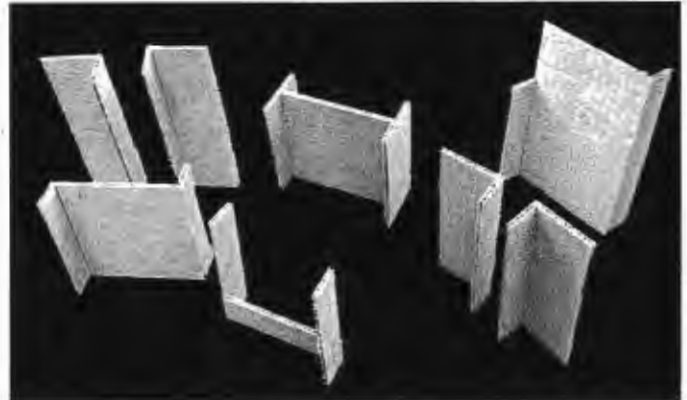
This is a case study of a three-week studio project given to first semester freshmen in the School of Architecture at Southern University. While the entire project will be outlined the focus will be on the component referred to as 'spatial themes'. A spatial theme is a self-stable, three-dimensional configuration of walls that acts as a place-making device. In this studio the device of a spatial theme had a very positive effect on the quality of projects. The themes primarily allowed for a direct means to discuss form with the students and also encourage form as a unifying element in each student's project. As a result of this medium of communication (the spatial themes) the projects demonstrated clear relationships between parts and whole, a rich three-dimensional spatial articulation, layering and clear place making beyond what one might expect for first semester students. This method of design also encourages a design process where form and character are derived from the elements and processes of construction.[1]

This studio project took place at Southern University, Baton Rouge, a historically black college in Louisiana. The composition of the classroom was sharply divided between students who were fully engaged with ideas of design and those who had any number of special circumstances such as children, full-time jobs or extended commutes. For example, one student commuted over an hour each way on a yellow school bus because it was the only transportation from his hometown in rural Louisiana. He had to leave 10 minutes early from each studio to catch his ride and only had a few opportunities in his day to spend extra time in studio. In many cases even the most basic study skills were missing. Though some of the students may have lacked basic skills they overcame many odds to be at Southern. In this studio environment I found that for a design problem to be accessible to the greatest number it

had to be asked in a pragmatic way, even if the underlying intent of the project was to be an abstract spatial exercise.

The first year design curriculum at Southern emphasizes physical and computer models as the primary process media in the first semester and drawing in the second semester. The idea of first developing spatial awareness through models and then subsequently abstracting space through drawings is the larger context for this project. This was a first semester project.

THE PROBLEM AS FIRST STATED:

An eccentric artist has approached you and requested your services for a project she wishes to build. She would like to collaborate with you on the project but would also like each of you to be able to work independently. Her solution is to provide you with a general description of her needs, a number of 'spatial themes', and a basic grid. She also requires generous north light, cross ventilation and clear spatial zones for work, relaxation and storage.

THE PROCESS, an overview:

Students were first asked to make cardboard bases with a prescribed grid drawn on top. As each base was complete it was set aside. Students then each chose/designed three different spatial themes. Themes were developed not to resolve any programmatic concerns but simply to be self-stable and place-making. Once themes were decided upon they were built in sets of three at a scale of 1/2"=1'-0" and set aside. A class discussion was then held to talk about how each student

would develop a simple diagram expressing the relationship between the studio and the garden. After diagrams were drawn, a slide show focusing on designs of a similar complexity was presented. Then, with diagram in mind and themes in hand, the students began to assemble their models.

As the models began to sufficiently resolve the programmatic needs as well as reflect the diagrams, the issue of section was raised and discussed. After each student developed a sectional idea they rebuilt their walls and completed their roofs. Finally, reviews of the projects were held.
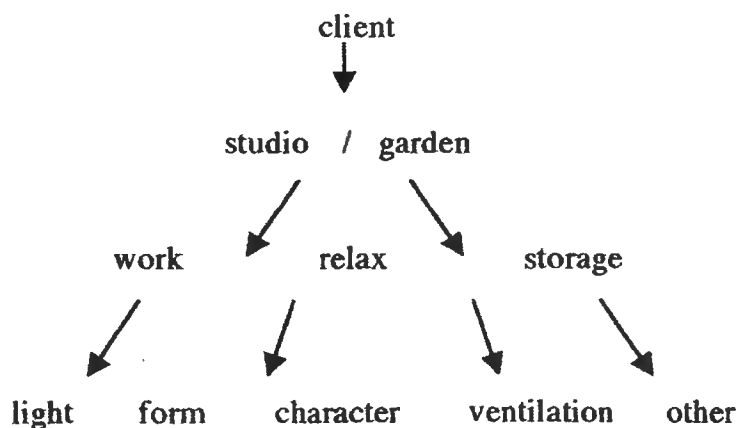
The design project had three major components: program, site and assembly/construction (themes). Each component had a structure that balanced a given rule system with an open-ended quality. The rule systems were a way to tier the project so the idea behind the problem remained accessible while retaining a complexity that grew in step with the students' motivation.

In the process of attributing a functional quality (program) to a formal language (spatial theme), it is the form that can exist as part of the built environment without the other; form is also the one more likely to remain consistent over time. While function is part of the story that the student is trying to tell, it is still form he/she is designing.[2] Form is the medium students are learning to work and so form is their beginning. Because the design process described here works through three dimensions it also averts the first year student's tendency to design in plan and extrude.

There was a second phase to the project that is not covered in this paper. Students chose three openings in their buildings and developed ways to modulate the light to reflect both the program inside and the cardinal direction of the aperture. Their previous models were used as the starting place for this further articulation of their ideas.

PROGRAM, diagrams:

The logic of the program/client structure was introduced in a series of growing complexities. As the diagram above shows, a client with whom the student can identify is first introduced. The client then established the basic relationship of a studio and garden. The relationship of studio and garden is where

client ↓	introduction
studio / garden	establishing a diagram
work relax storage	differentiation
light form character ventilation other	a complexity (to imply next project)

the students began their basic diagramming and conceptualization of the project. Diagrams were instigated with simple questions: Does one pass through the garden to get to the studio? Does one find the garden within the studio?

At this point the slide show was presented, focusing on simple two part schemes and the edge condition between the parts. Diagrams were then further refined.

After the slides were shown and the diagrams established, a further complexity was introduced by requiring different spatial qualities appropriate for each of the three zones in the 'studio'. Until this point, the problem remained very solvable from the students' perspective. Each stage has been about simple pieces of information for the student to conceptualize (first the client, then the studio/garden relationship, finally the three-part program). By presenting the situation in tiers the problem remains a series of steps, each within reach for the student. The final complexity is to keep this feeling just out of reach. The final complexity in the program was a short list of the variables that always need to be acknowledged but to which there will not be a right answer: light, form, character, ventilation, etc.

The staging of complexity worked well and evolved during the studio as issues were raised and the students felt a need to clarify the problem. For example, at a later stage when the issue of section came up, the students began asking what the rules were for the heights of their spatial themes. There had not originally been such rules but after a little discussion, the 2'-0" module was determined to be 'of the same language' as the rest of their rules.

While the program is generally conventional, its role in this project is to give the student criteria with which to be critical of their form making. As the spatial theme component of the project is developed, the object is to translate these basic criteria (program) into three-dimensional terms (organizations of spatial themes). Form is emphasized as the generator, not plan.

THE SITE, developing associations:

In a very simple way the students made their own sites. They began with a prescribed dimension piece of cardboard to provide limits, the cardinal directions, a given party wall on the west side, and the requirement for a tartan grid on the cardboard. A building scale of 1/2" = 1'-0" was prescribed.

The party wall provided a local context and directionality while the cardinal directions gave a global orientation. Again, the idea was to simplify while simulating greater complexities. The students knew there were variables and they knew what the variables were, but they stayed manageable and identifiable.

The grid was based on modules that worked with the required increments (2'-0") of the spatial themes. Students were encouraged to align their constructions with the grid. As the students worked, the grid revealed a more global perspective to each move made. As students grew accustomed
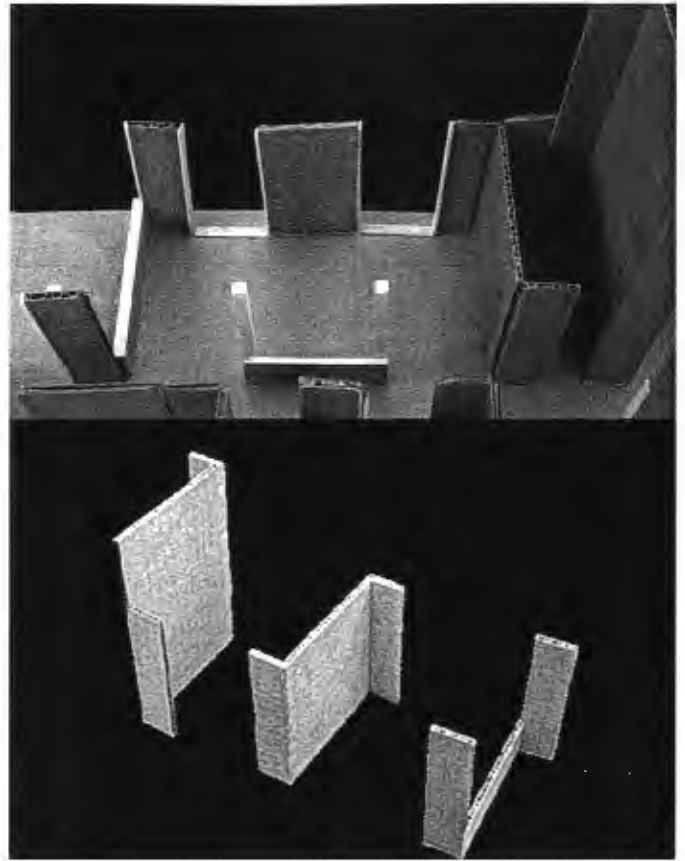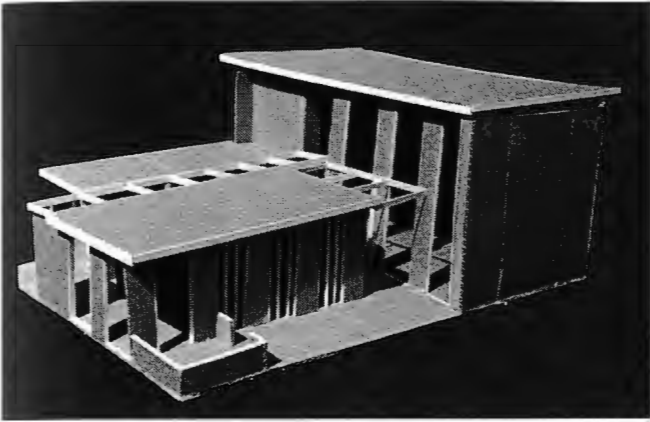

to working with the grid, a sense of the connections they made with each wall became more intuitive. Spatial order and layering slowly became purposeful and students understood the relationships implied in a move that may have begun as an isolated idea. In the example above Ray Jacobs has developed a relaxation room that demonstrates a graining, repetition of elements and a clear relationship between that room and the adjoining garden. With the grid helping to demonstrate how one move might relate to a previous (or future) move across the board the student was subtly encouraged to design relationships and not just individual walls.

When a student is designing through drawing, the latent power of relationships across a field can be revealed by the simple exercise of 'extending one's lines'; that is, by drawing out an irregular grid based on the walls of one's design:
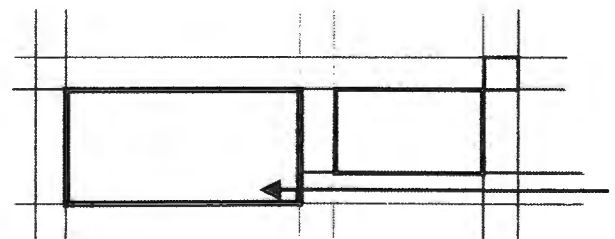
It is difficult to get first year students to practice this exercise of extending lines. Whether the irregular grid is a product of the designed walls, or the walls are a product of an underlying grid, the grid is a device that helps to establish relation-

ships. The grid allowed the site and the evolving design to speak to each other as well as to the designer and encourage design as a dialogue. By having students draw out a grid that worked with the module of their spatial themes before building, the relationships between walls occurred with more frequency than one would expect in first year and were understood as architectural devices. The lesson of site was to use the themes to develop macro as well as local relationships. The intention was to reveal a site as an open field with a series of restrictions that could be the form-generating factors of a design: site as a field with which to interact and establish relationships. The site was reduced from an ...urban infill or ...along a river to the idea of developing a few basic relationships, both local and across the field.

In the end it was probably the grid that was the least successful element in the design project. While it had some effect and certainly tightened up all of the projects, it never quite became a device for experimentation. Instead of testing its rules, students seemed to ignore the grid when relationships did not come easily enough. Perhaps the students had enough challenges and some of the more hidden potentials of the grid will be explored in later projects.

SPATIAL THEMES, assembly:

Spatial themes were the generating idea for this project. They were the solution to the concern of eliciting quality work from a situation where students were expected to struggle. The spatial themes were conceived as a relatively quick exercise to pull the basic pieces of design out of the students early in the semester so they could return to them in later projects. The students became involved with the project and worked outside of class, a situation I was not led to expect. The outcome was encouraging.

The idea of spatial themes was introduced with a few examples in plan. The definition provided:

> A self-stable configuration of walls that defines multiple "places", ex. three walls arranged in an "I" configuration (in plan). Within any one given spatial theme all of your walls do not need to be the same height. There are an infinite number of spatial themes, do not do as your neighbor!
> Experiment! Rotate! Transform!

Students were asked to create three different themes and use each at least three times in their project. After themes were chosen and confirmed through desk-crits, the students immediately built their themes at a 1/2" = 1'-0" scale. Their cardboard grid site and their wall constructions were then available for experimentation. Another round of desk-crits evolved conversations that spoke directly about form and the idea of building relationships in three dimensions. At this point the activity in the studio changed solely to designing with models. Once a basic scheme was identified for each student the next issue that was raised was that of section.

Most students originally built all their walls to the same height. The consistency of wall heights was questioned and section was addressed in a very simple manner How tall are your walls going to be and why? The driving forces became the articulation of the three primary spatial zones and how light might enter each of these. Internal variation of wall heights was also discussed as a means to connect different zones. As these last critiques were considered, students rebuilt walls to adjust heights and used their models for more focused experimentation.

The outcome of the spatial theme component of the design project was the strongest in terms of student development. As the models attest, there is clear spatial articulation of the primary zones and of sub-zones, elements of repetition and layering are exhibited, and a unifying section characterizes almost every project. Some projects maintain a stubborn symmetry, a sign of the unresolved programmatic issues that are often unavoidable in a three-week project. The 1/2" scale spatial themes allowed the students to become quickly facile at reconfiguring and experimenting with space, which kept them engaged with their own design processes.
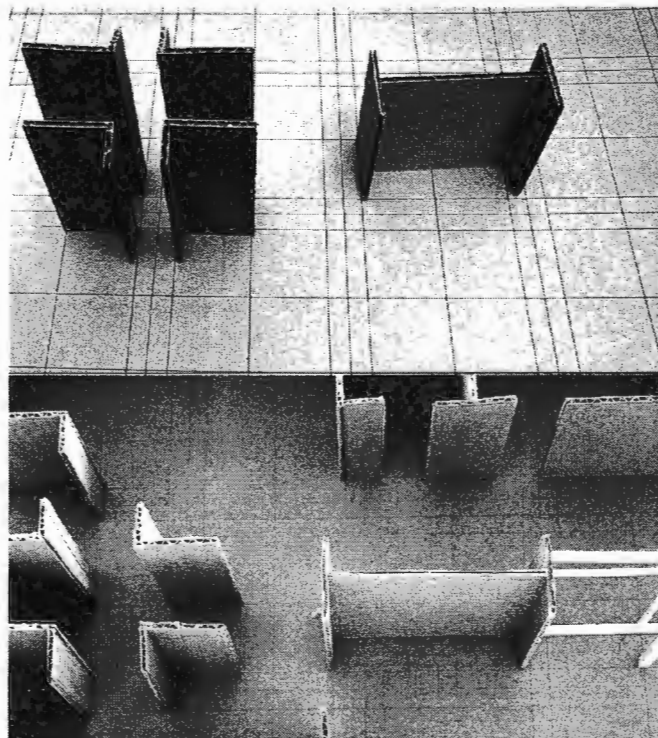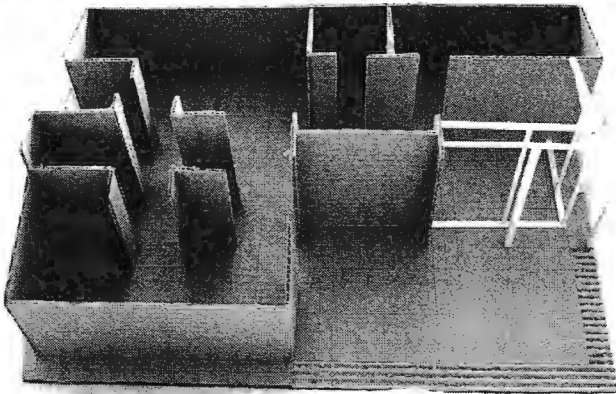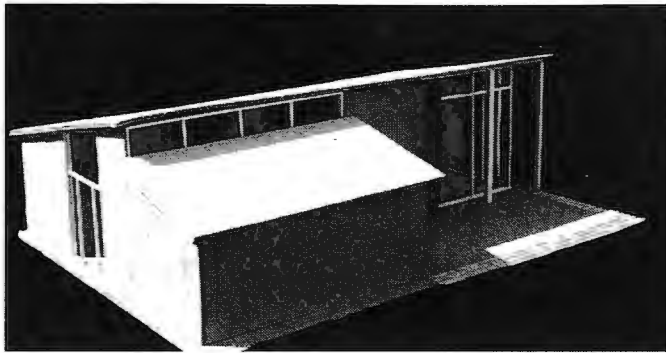
A more important outcome, however, may be that the intuition and judgment of the students were reinforced during the process of this studio. While the rules were clearly given (and hence a criteria for judgment) they were always expressed as being flexible, within good reason. The students had to take responsibility for the rules as generators of their design. This responsibility to the rules also removed them from some of the responsibility (burden) to be unique.

When first trying to develop this introductory project I listed a few ideas to focus on:

-Relationship of parts to whole

-Relationship of technical/constructional solutions to architectural solutions

-Themes and variation

These concerns were focused through the spatial themes. They became blocks to play with and allowed for clear discussion about the formal qualities of their projects. In the end, being accountable to the rules, the students began to use the rules as both a starting place and as their own criteria for judgment. The themes and the program coalesced at the personal critique: Does this do that ?... Does this configuration promote that type of inhabitation? The spatial themes turned an open ended (and difficult to begin) design problem into a closed system with understandable objectives, means and outcomes.

The design project outlined above seemed to maximize the focus on spatial issues and experimentation while minimizing the need for previous experience in design. It was a very structured project and consequently was able to handle a large variety of experience amongst the students. The project also seemed to promote a flexibility in the student's design decision making while still being a relatively practical project. The spatial themes were successful both on the grounds that they promoted architectural tropes and because the pieces were so manageable. In the end it appears that 'architecture' was present.

Now, in the second semester, projects have become more abstract, while still continuing to investigate the idea of spatial themes. Projects have also become more concrete as the assembly of constructions is further investigated. Rule systems are becoming more comprehensive but also more self-regulated. As an aptitude for decision-making is developed, assembly and inhabitation are becoming criteria for judgment. The problem changes from a blank page or where to begin, to a crowded page and the question of editing.

NOTES:

1 Habraken, N. John, "The Control of Complexity," Places, Vol.24, No. 2.

2 Anderson, Stanford, "The Fiction of Function," Assemblage #2 (1987): 19-31.