

Avoiding Seamlessness

Sallie Hambright-Belue

Clemson University

Introduction

All architects must have an understanding of program – it is one of the necessities of building. Presented here is the work of one beginning graduate architecture studio at the Georgia Institute of Technology which was developed and implemented by the author. The studio focused on understanding program through material mixing investigations. Greg Lynn's theoretical framework presented in *The Folded, the Pliant and the Supple* was used as the basis for the design process:

"Neither the reactionary call for unity nor the avant-garde dismantling of it through the identification of internal contradiction seems adequate as a model for contemporary architecture and urbanism. Instead, an alternative smoothness is being formulated that may escape these dialectically opposed strategies."¹

The students used the process of mapping/diagramming/drawing/modeling to investigate material, program, and site as separate entities in order to understand each. Only then did the students begin to combine them. This fusion of material, form, fabrication, and understanding was the project objective: combining disparate elements to make a new thing. The project highlighted the struggles which arise in architecture from trying to reconcile differing requirements like program, function, material, and site. The objective was to teach that designing "does not eradicate differences but incorporates full intensities through fluid tactics of mixing and blending."² The studio was not about seamlessness in architecture but about the seams.

Problem Statement

Architecture for most embodies the creation of something more than functional space, the proper

function of structural systems and environmental systems, the proper placement of a building on a particular site, and the adherence to zoning and code requirements. Architecture is undoubtedly more than the successful completion of a list of requirements. In a semester that is focused upon one of the more mundane requirements of architecture, the functional distribution of program in a building, this studio project attempted to re-think and propose an alternative way of teaching program.

Why Mixing?

Mixing various materials offers limitless possibilities. It is also inherently different from programming. Programming is clean, organized, precise, and orderly. Mixing is messy, imprecise, and physical. Treating program like a material offers a fundamentally new vantage point.

Re-thinking program through material mixing is not a seemingly natural fit; but seamlessness was not the ambition. The studio attempted to teach program with a hands on approach placing making at the core of the process. Proposing an alternative way of teaching program concepts was the goal.

The Project Proposal

The students were divided into pairs that worked on the design proposal for 10 weeks. The students began with a material mixing, moved on to a program analysis, developed a site-less building proposal, and finally chose a site and developed a final building design.

Proposed Program

The studio used a juvenile courthouse as the focus for the project for two reasons. First, the courthouse is mid-sized and a complicated organization of different uses and circulation patterns. The building brings three user groups together and is very specific in terms of space requirements. The program had requirements of separate and shared space which allowed the students to use all aspects of their mixing studies.

Second, the juvenile courthouse has an inherent relationship to site and the surrounding community. Juvenile courts serve many purposes including protecting, restoring, redirecting, and supporting children and families. The students were asked to

take a position relative to these varying missions in order to ground their understanding of the program.

Design Process

The process was prescribed for the students in order to deliver certain learning outcomes. First, the students mixed two materials – any two materials. The students were asked to document the mixing process through photos, two-dimensional diagrams, and three-dimensional diagrams. The mixing was presented using the framework described by Greg Lynn which is based in culinary theory:

“The first involves the manipulation of homogeneous elements; beating, whisking and whipping change the volume, but not the nature of a liquid agitation. The second method of incorporation mixes two or more disparate elements; chopping, dicing, grinding, grating, slicing, shredding and mincing eviscerate elements into fragments. The first method agitates a single uniform ingredient, the second eviscerates disparate ingredients. Folding, creaming and blending mix smoothly multiple ingredients ‘through repeated gentle overturnings without stirring or beating’ in such a way that their individual characteristics are maintained.”³

Second, the students diagrammed the program. This portion of the process was meant as an introduction to the ideas of program. Koolhaas’ *Delirious New York* was used to explain program diagrammatically where the formal strategy of stacked dissimilar programs is made possible by the use of the elevator in the *The Downtown Athletic Club*. The text also touched on the cultural landscape the building draws upon and enables. The students were asked to do the same in their projects.⁴

Third, the students used the material mixing as a way to develop the program diagram. They mixed the material ideas with the program ideas. The culmination of this part of the process was a site-less building.

Last, the students were asked to choose a site in the city of Atlanta. Previously in the semester the students had completed a four-week mapping project of the downtown, so they had working

knowledge of the site. The site was chosen with only 2-3 weeks left in the semester allowing students to see how a site can change architecture and how architecture can change a site. Just as two materials are mixed and create interstitial relationships, the architecture and site are mixed to create new interstitial conditions: “Folded, pliant and supple architectural forms invite exigencies and contingencies in both their deformation and their reception.”⁵

Four Projects

Below are four projects completed by pairs of graduate students from the Georgia Institute of Technology School of Architecture in the Architecture Options Studio I.

Merged Towers by Matthew Belt & Mats Nilsson

Merged Towers began with a material study involving expanding foam insulation and a shower loofah. The mixing was characterized by the force exerted on the expanding foam by the shower loofah mesh. The mixture began with the foam only existing within the loofah then expanding and squeezing through the mesh separating the foam into linear modules. In the end, the students found that the foam enveloped the loofah completely. The students analyzed the process of change and chose to focus their attention on certain moments within the mixing process (Fig. 1).

The program for Merged Towers was understood as vertically separated programs connected by large connection spaces which would double as circulation and used space. The program was stacked with the most public space located at the lowest level and the most secure spaces located at the top. With this understanding was a desire to make the surrounding streetscape (whatever it may be) a part of the building hence the public space on the first floor. The vertical connection spaces included the lobby, courtroom spaces, and prisoner staging spaces.



Fig. 1. Merged Towers Material Mixing

The mixing of the program analysis and material analysis worked quite well in that the material investigation provided a formal strategy of spatial division that could accommodate the vertical program strategy. The forms the students worked with morphed from large shared spaces into smaller cellular spaces hence the defining element of this project being merged tower forms (Fig. 2).

The site for the proposal had a similar organization as the building program. The building was placed at a fork in the road where two roads converge into one. The towers were able to be placed as a cluster which allowed the ground plane to be divided where needed and ooze at the edges so that the public program could blend with the surrounding city spaces.



Fig. 2. Merged Towers Final Design

Non-Newtonian Courthouse by Will Gravlee & Barbara Nowak

Non-Newtonian Courthouse began with a material investigation mixing cornstarch and water which created a non-Newtonian fluid. The students noticed that without resistance the mixture flowed and was flexible; but, when pressure was applied, the mixture became firm (Fig. 3). The constantly changing relationship between pressure and no pressure fascinated the students and affected their way of interpreting the program into form.

The students' program analysis began by dividing the spaces up by user group: public space, employee space, judge space, and prisoner space. Certain shared program spaces could not be placed within a particular user group such as the courtroom, court library, court clerk, and parking space. Instead of understanding these spaces as separate program blocks, the students understood these as void spaces made visible by the other program spaces organized around the shared space. In many ways, these shared spaces were given form by the pressures applied by the other programs just like their mixture was able to create form through outside force.



Fig. 3. Non-Newtonian Courthouse Material Mixing

The site chosen for the project was a very large lot with seemingly disparate identities. On one side of the site was a power facility, on another was a residential neighborhood, on another was a church, and on another were a couple of retail stores. The students saw their project as the space that could connect all of these different types of programs just like the shared spaces within the building. With the lessons the students learned from the material mixing, they were able to employ soft edges, hard edges, and all the conditions in-between fitting into the site and addressing all of the various conditions found (Fig. 4).



Fig. 4. Non-Newtonian Courthouse Final Design

Structured Reticulation by Kelly Darby & Robert Woodhurst

Structured Reticulation began as a material investigation using spackle and a dryer sheet. The students were focused on the dependence each material had on the other in order to give form. For instance, without the spackle the dryer sheet was limp and formless and the spackle without the dryer sheet was the same. Only when the two were combined could the materials hold a shape (Fig. 5).



Fig. 5. Structured Reticulation Material Mixing

The program analysis the students developed understood the courthouse as a mutually dependent space just as the material mixing was based upon mutual dependence. The students wanted to reinforce the idea that the court serves the public and the defendants equally. They viewed the juvenile court as a rehabilitative space instead of a punitive space. The students understood that only through the involvement of the public and surrounding community can rehabilitation take place; therefore, much of the program falls outside the secure courthouse proper and in the public space. Only those programs where security is of high priority are located within the courthouse.

In the end, the students sited their building in the heart of the city on a corner lot that created a grand city plaza surrounded by other buildings. The courthouse supported the exterior space programmatically and formally but only with the help of the surrounding city. The lacy structure which dominated the interior space held important program elements just like the original mixing study (Fig. 6).



Fig. 6. Structured Reticulation Final Design

Suspended Spaces by Travis Hampton & Emily Marvel

Suspended Spaces began with a material investigation mixing oil and water. The students were focused upon the process of pouring the oil into the water instead of the static end mixture. Their analysis involved understanding the suspension of the oil masses within the water which floated and flowed through the water volume (Fig. 7).

These students analyzed the program as a series of spaces which support the juvenile. Just like the water supported the pockets of oil in the material mixture, the spaces in the building supported the juvenile spaces. These students proposed adding additional spaces which were not only for juveniles charged with crimes. These spaces allowed additional support for community children and teens such as activity spaces including music rooms and art studios.

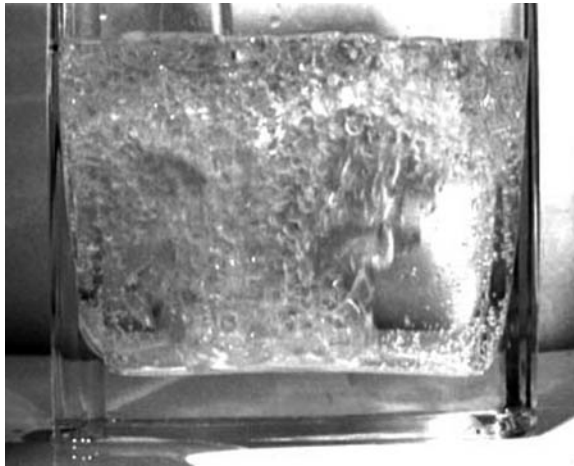


Fig. 7. Suspended Spaces Material Mixing

The project was sited within close proximity to other community facilities which support the community's youth including a school, The King Center, and several churches. The students were attempting to make the courthouse a place of support for local children rather than only a place of punitive judgment. The building inhabits a corner of a park which is anchored on opposite corners by the school and the Visitor Center for the King Center. The courthouse provides a covered entrance to the park and King Center showing its physical support of the local community (Fig. 8).



Fig. 8. Suspended Spaces Final Design

Reflection

Several observations can be made about the work. The greatest short-coming of the studio was the unresolved nature of the technical aspects of the projects. Most of the projects were unable to get to a technical resolution that would make the proposal believable. All of the projects could have addressed the incorporation of building systems and would have benefited from the process. While this was a short-coming, below are some of the successes of the studio.

First, the project was successful in delivering an understanding of program that was more than a mere distribution of space. The students were able to understand program from its cultural implications and through a more tactile mixing. These lessons were easily communicated and grasped by the students because it followed a material investigation. The projects all had an understanding of program that transcended a functional arrangement of space.

Second, the process encouraged the development of an idea that ran through material, program, and site development. Many times, young designers have a plethora of ideas in one project. The

process used in this studio kept this tendency at bay because the students were led in a particular direction. The students learned that the idea for a building should be supported on many levels, in this case material, program, and site.

Third, the project required the development of the project through models and drawings. These were used throughout at each stage of development. While in some studios students are left to choose their medium, in this studio the medium was given. The process required students to develop both skills, drawing and modeling, not just the one they felt most comfortable using.

Fourth, the studio encouraged the use of atypical modeling materials. The modeling exercises encouraged students to use methods and machines they had never used before expanding their knowledge of material and techniques that hopefully helped them in their upper level studios.

Finally, the diversity of projects in the studio was refreshing. Because the students began with diverse material mixings, the proposed final designs were quite different. The site selections the students made were also diverse considering they were all within the downtown of Atlanta. Some of the sites were in the extremely dense urban core, others were at the periphery of the downtown where the city is beginning to unravel into a more suburban condition, and still others were in the in-between. The sites were in-fill, open, and a combination of these.

Overall, the studio was successful in delivering a well-rounded understanding of program which ensured students could meet the functional criteria of program distribution as well as the ability to create a conceptual framework for a building program.

Notes

^{1-3, and 5} Lynn, Greg. "The Folded, the Pliant and the Supple," *Folds, Bodies & Blobs* (Brussels: La Lettre Volee, 2004).

⁴ Koolhaas, Rem. "Definitive Instability: The Downtown Athletic Club," *Delirious New York: A Retroactive Manifesto for Manhattan* (New York: Monacelli Press, 1994).