Pratt Institute
Brooklyn, New York

Conceptions of Space:

The Dramatization of Space Through Non-Architectural Concepts

by Lara Guerra

This article will demonstrate various student works taken from an elective Fundamental of **form•Z** class which has been re-engineered into a studio format. The premise of the classes which I've taught and am teaching, for both the Department of Graduate Architecture and the Department of Continuing Education at Pratt Institute, is to use **form•Z** as a tool to conceptualize space, being that it is primarily geared for architecture students.

Figure 1:
In class exercise: spatializing text.

The idea is to use the software as a design tool that will help the student materialize their ideas and interests, in ways that might not be immediately associated to architecture and space. Too often 3D modeling software has been used as a means to represent an already established and polished design. This class trails away from this method of thinking and working. It primarily focuses on the intention to use software as an extension of thought and process. The representation of the design, through rendered images, is ultimately what students present; however, the questioning of space and development of the student's subject matter are entirely done through and with the 3D software itself (Figure 1).

Class Structure

Typically, architectural classes are structured around the purpose of creating a building or space using notions such as program, site specificity and the like. It is usually done so, to guide the student in developing a possible project, geared toward the requirements of the architectural market.

In contrast, the students in my class are encouraged to develop an idea which is of interest to them, without it being directly about architecture, or discipline they are studying or working in (see Figures 43-47).

The idea can be anything from a word, a routine, a fable, anything which the student uses as the basis for their spatial exploration. Some of those ideas have included notions such as water, embrace, light, to name but a few.

Contrary perhaps to other studio classes and environments, there is no formula to develop an idea, and most of the ideas explored have nothing to do with "architectural programs" or standard "architectural concepts" (see Figure 2, where the word "hair" was chosen as a concept for developing spatial explorations).

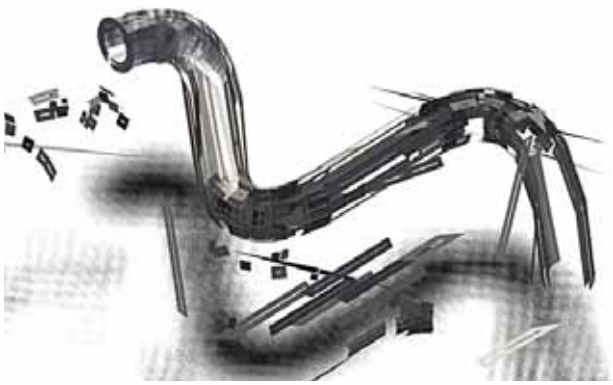


Figure 2: Adee: study structure of a strand of hair.

It encourages the purity of an idea and its consistency throughout the project. It's about being able to track the movement of the idea though repeated steps, visual clarify of the idea, etc. It doesn't rely on any past architectural references. It tries to break away from what we are taught and tries to allow the student to develop the purity of their idea, its visual representation and its implications to form and space (Figure 3). It relies purely on what the student would like to spatialize. What the students are asked to

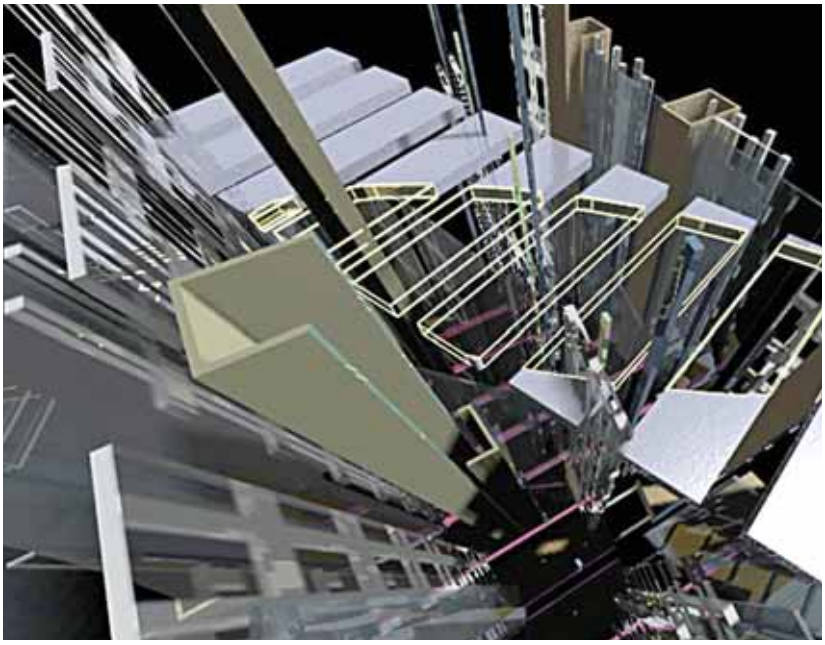


Figure 3: In-class exercises illustrating possible space relationships.

Figure 4: Paige Ridley: structure-study of a bird's wing.

Figure 5: In-class exercise: studying the combination of structure and surface.

do is to design a space that is not necessarily possible so they can explore how the software can alter their own spatial conceptions. The possibilities being endless, they choose a more concrete idea that they develop throughout the semester and reinterpret it. In order to aid the students in developing their idea, the project is divided in two parts: structure and surface. The student must design a minimum of three structural elements and three surface elements that support their concept (Figure 4). These elements are then confronted to one another in order to form a dialogue that creates a space (Figure 5).

These elements are discussed and used as a way of getting away from what we already know and perhaps question daily. It allows the student to experiment with different notions that are just as common, albeit in a different environment. This in turn allows them to re-develop their pre set notions of space and relationships (Figure 6).

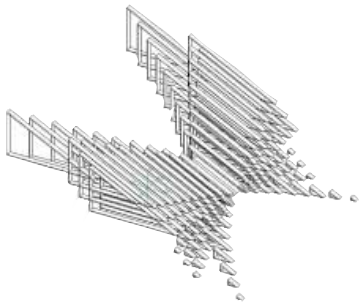


Figure 6: Dongwook: studies in structure.

This becomes quite a challenge since the student is, in parallel, trying to learn the software. They enter the class with no prior knowledge of the software and are asked to design with it. The experimentation takes a lot of space and time and the development of the idea is most often put on the back burner as the student struggles with understanding the software. The student does not become well versed in it until perhaps the end of the class. This tends to slow down the design process and satisfactory design results are most often seen toward the end of the semester (see Figures 38-42).

Language and Exploration

We do not use architectural jargons such as program or site, or any conditions that are concretely discussed in our working environment. We speak of Cartesian grids and spaces, repetition through random equations, center of rotation or transformation, distance, density etc. These are notions and languages that exist within the **form•Z** realm (see for example Figure 18).

Process and Outcome

Satisfactory design is not solely judged on the quality of the image, or representation of the space. A good design is one that supports the idea being developed by the student. Being that this is an experimental class, with so many varied projects, the criteria for judgment is primarily posed on the process of the creation of space (Figure 7).

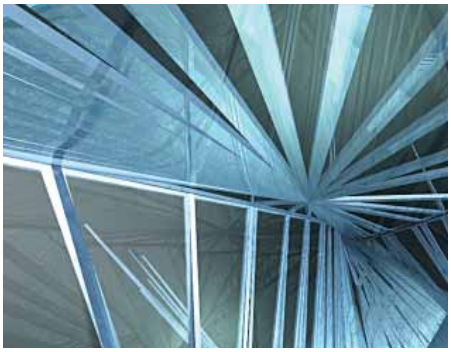


Figure 7: In-class exercise: complexity of space.

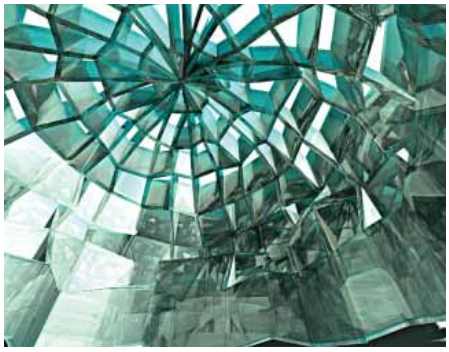


Figure 9-10: Pei-Yu: Jelly Fish: Final studies of structure and space.

How are the boundaries of this idea being defined, pushed and/or supported? The way an idea is being tracked in its development becomes primordial in understanding the strength of the final space and outcome. The process is the narrative, without it, the space would have no story. Consequently, I allow the students to develop their own ideas and concepts that are perhaps, at first hand, not relatable to architecture or space. However, the questioning and development of their concepts illustrate very strong relationships intrinsic to space and architecture itself (Figure 8). For example, the following student wanted to explore the imagined spatial qualities of a jellyfish. The word chosen to guide her project was just that: jellyfish. We can safely say that this is not a common "relatable" architectural concept. However, the student through her own interpretation of what the structural fabric of a jellyfish might be like, developed a series of triangulated and other deep set structures. This was her exploration which ultimately spatialized a very liquefied and reflective space that supported her idea (Figures 9 and 10).

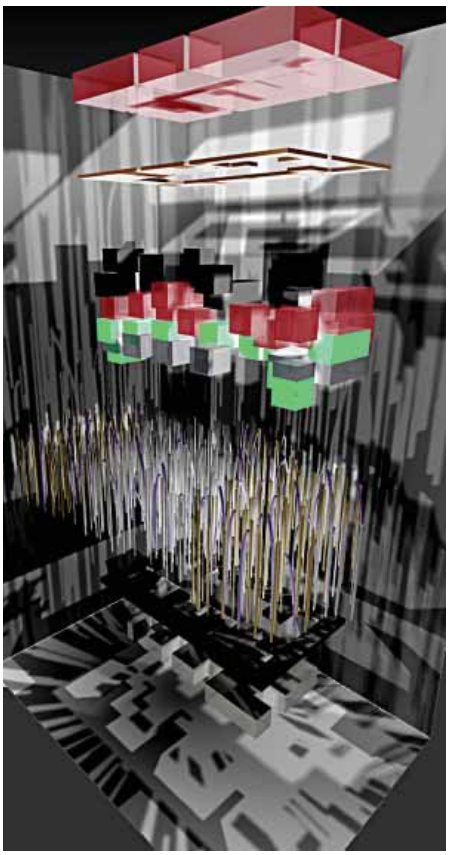
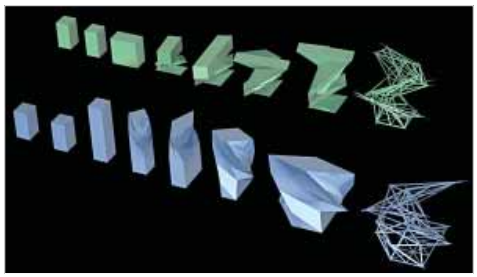


Figure 8: Emine S. Akkurt: process and elements of space complexity based on games and building blocks.

If we consider that space exists everywhere through the relationship of two or more elements, then the possibilities are endless. The classes are re-engineered as studio classes, where an intensive exchange of ideas and possibilities of space conceptualization become the main focus. **form•Z** is utilized as a tool to engage in these possibilities. This exchange serves as a forum of thought for the students, who are given the opportunity to rethink space. We focus on the idea of the dramatization of space and relationships. The students engage in creating this space by narrating a story, event, a word, as system, etc. They take the opportunity to develop a topic that is of interest to them, all the while, trying to spatialize it. The idea is to work with the limitations of the software, questioning the boundaries of logic and working them into the projects (Figures 11 and 12).



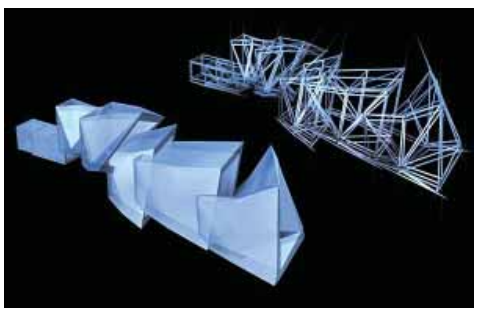


Figure 11-12: MW: Metamorphosis-final studies:
The deliberate programming of arbitrariness. The student set specific equations of transformation through angle rotations, repetition, movement and deformation, to achieve the gradual metamorphosis of a box. The process consisted in being deliberate about a series of arbitrary transformations to create a series of structures. The student programmed specific values of scale, move, rotate and deform to a box. By the repetition of the same values deployed in space she created various possibilities of space and structure.

Narratives and Scenarios

How this is achieved is through one major assignment that consists of inventing a space, be it a fictional one, possible or impossible. The idea is to choose a theme along which the students will design their environment by inventing the circumstances around that environment. That is, they invent a scenario to support their ideas which will also serve to help guide them in their decision making. They set up a narrative that can include ideas such as light (Figures 19-30), words (and the imagery and concepts associated with them), political events, psychological states, among other possibilities, anything that the student wishes to talk about by spatializing it. It is developed comparatively as a screenplay where key actors or "elements" come into play to dramatize the space which ultimately narrates a concept, idea or event.

The idea is that the space will tell a story. A story has a narrative and characters which engage with each other. The story is the idea or title of the project, for example some projects had titles or ideas such as: Water, Embrace Figure 16), Alice In Wonderland (which we will explore below, see Figures 13-14). Each student invents the circumstances of this story, for example:

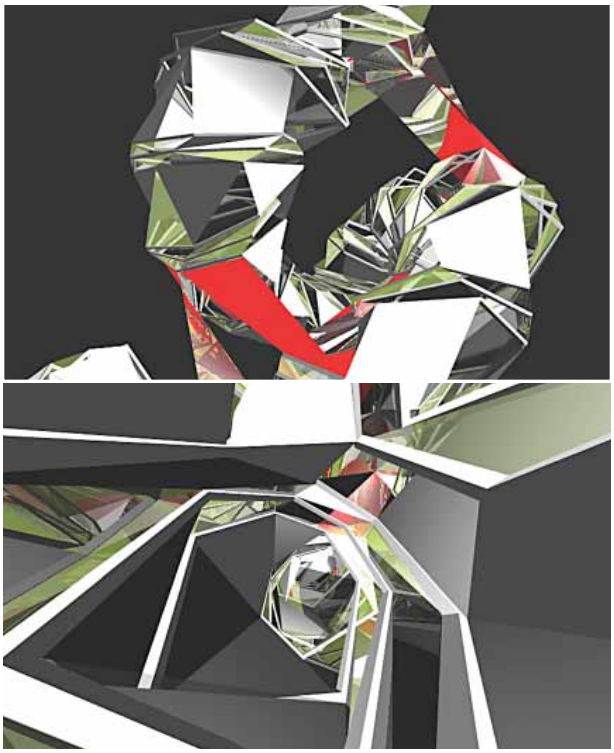


Figure 13-14: William C: spatializing Alice's fall through the rabbit hole-Alice in Wonderland. A series of octagonal structures were deployed, by increments of rotation and displacement through space to recount and re-interpret Alice's journey through the rabbit hole.

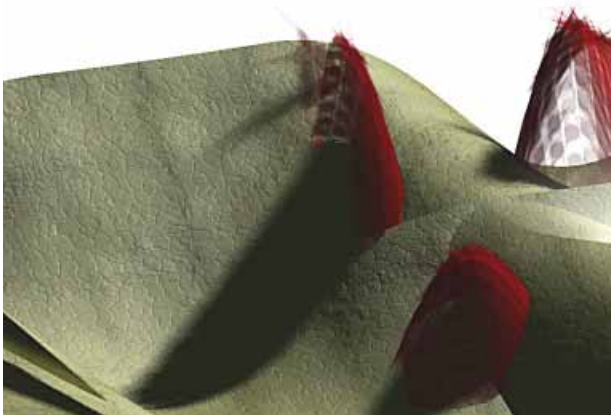


Figure 15: JJ: Miniaturization of space. Sewing and seam. Study of the space that exists within the movement of fabric and between a seam.

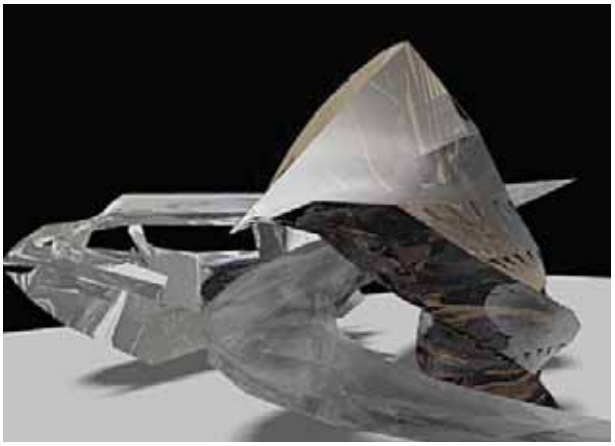


Figure 16: Carrie L.: spatial study of an embrace by the confrontation of 2 boxes, which underwent a series of deformations.

The student wanted to spatialize Alice's descent into the rabbit hole. Alice in Wonderland's trip down the tunnel was recounted with the use of basic geometry.

The geometry being a series of octagonal frames fractured and connected together, perpetually shifting to create movement from the beginning of the descent to the end of the tunnel. In this one example the scenario is a familiar one, however re-interpreted through a set of circumstances imagined by the student. Geometry was used to narrate Alice's descent.

The context for the project becomes an important part of the project itself. It is a chance for the student to explore notions which they are interested in but which are typically marginalized by our pragmatic environment (Figures 15-17). Studies of form and relationships are developed along many different topics such as: Water, Embrace, Metamorphosis (Figures 11-12), Installation art: space versus image (Figures 31-32), insomnia, sound (Figures 36-37), Alice in Wonderland (Figures 13-14), Deep Surfaces (based

on Yacov Agam's art, Figures 43 and 47) and the Cuban missile crisis (Figures 33-35), to name but a few. Each one of these topics is then spatialized by a set of rules which the students develop to support their narrative.

The software's notions of repetition and re-iteration, mathematical Boolean operations, direction, sequencing are constantly being confronted and utilized in the search of form (Figures 19 and 38-42). I encourage the deliberate actions of arbitrary rule, notion of computational error in the limitation of a tool, the deployment of repeated structures, the definition of objects and their components in the development of the students' ideas.

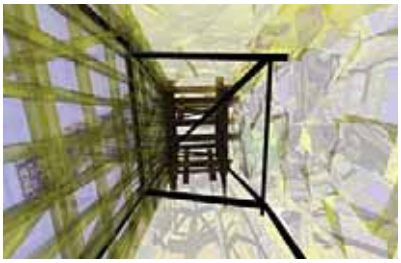


Figure 17: Menaz. Transparent labyrinth.

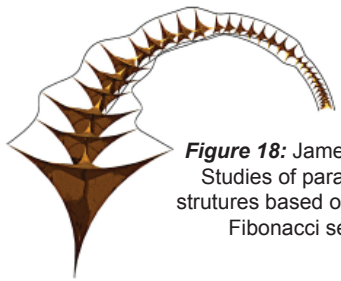


Figure 18: James R.: Studies of parabolic strutures based on the Fibonacci series.

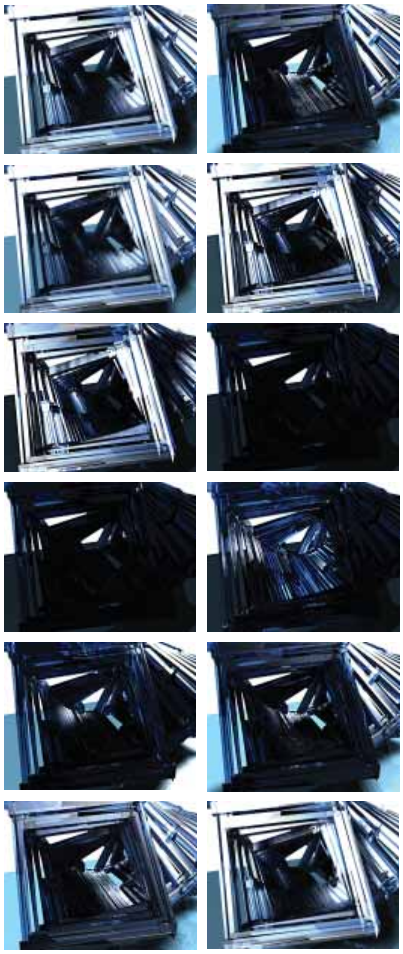


Figure 19-30: Michael Chan. Studies of light-definition and negation of space. Creation of a space punctuated with twisted structures and openings, to track the movement of the sun and light. Observation of the moment when space is negated through the absence of light.

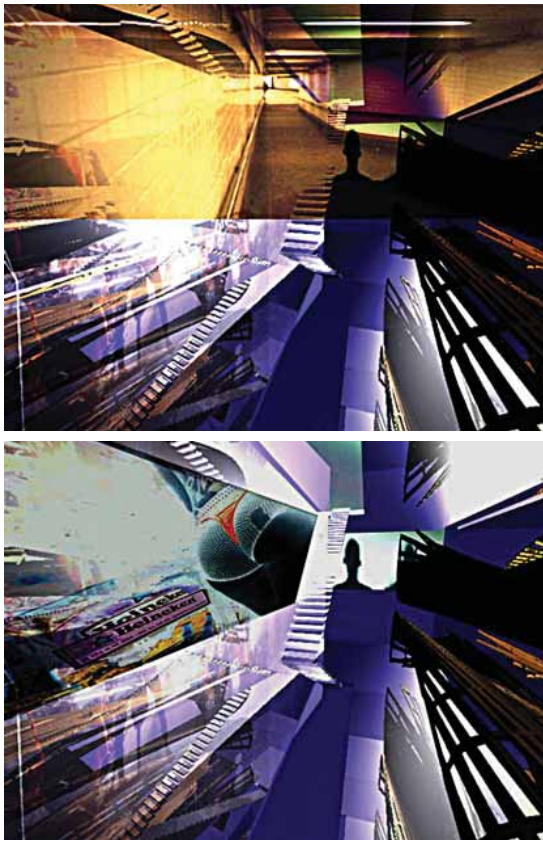


Figure 31-32: M.V: Installation art – Juxtaposition of space and image: obliteration of space through image.

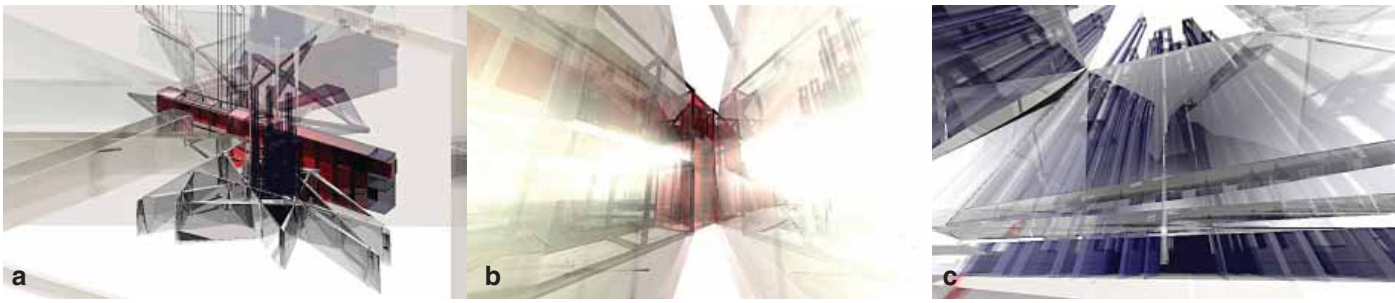
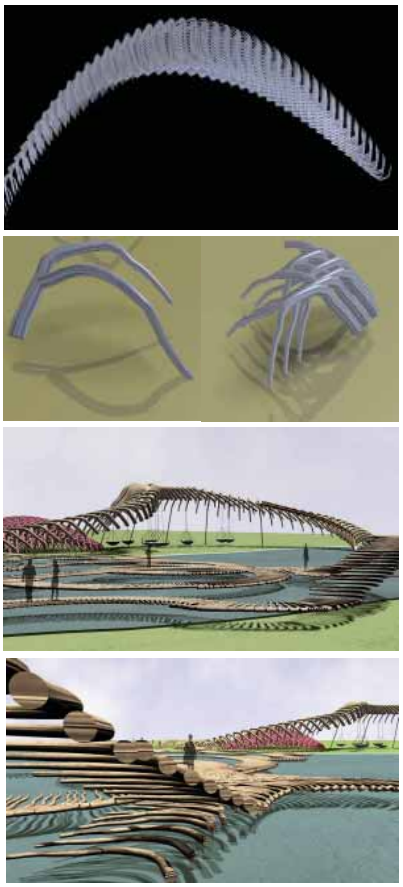


Figure 33-35: Yvonne: *Spatializing the Cuban Missile Crisis:* Strategies and consequences: (a) Here, the student orchestrated her narrative around the idea of the time line (left) and possible consequences, if certain decisions were taken versus others, during the Cuban missile crisis. (b) The center space of time is illustrated, when the final decision of attack versus retreat (and vice versa) was being taken. The transparency is meant to illustrate time running out. (c) The image depicts the casualties of an attack from either the Cuban or American side. The images show the time line and the possible spaces that reflect a strategy taken, the toll of casualties if the position of attack was undertaken by the respective government and the transparency of the moment when time ran out and a decision was made.

Figure 36-37: Carolina Del Rio: studies of sounds reverberation and its spatial interpretation.

Conclusion

In conclusion, the following examples of student work are a testament of the varied interests that are encountered in these classes, each one trying to recount a story, that perhaps at times seem to defy any implication of space and architecture, but that ultimately exemplify the notion of space and its dramatization, through any means possible.



Figures 38-42: Kate Elliot: Outdoor park: Movement & tactile experiences. Weaving structure studies through the repetition and deployment of one basic element.

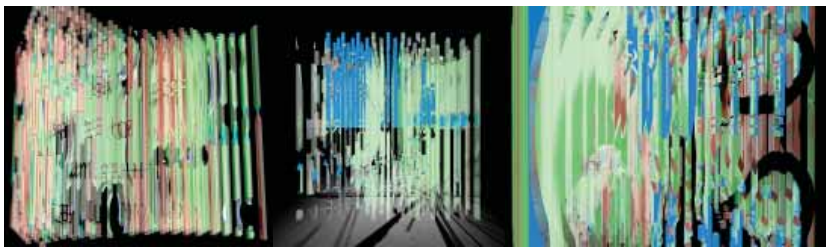


Figure 43-45: Aileen Iverson: Deep Surface – studies of meta-organizations- influenced by the work of Yacov Agam. The student quotes one of his statements as the catalyst of the project: 'The absence of motion negates the image' – Yacov Agam; This project was featured in the **form•Z** Joint Study publication of 2004-2005.

"This project seeks to explore the creation of surface as a 'meta-organization'. The quality of such a surface is influenced by the information held by these smaller elements (the density, number, form, color, etc.), a quality referred to as resolution. By introducing distance between objects carrying this information can we speak of the space thus created as having a spatial resolution?" -Aileen Iverson.

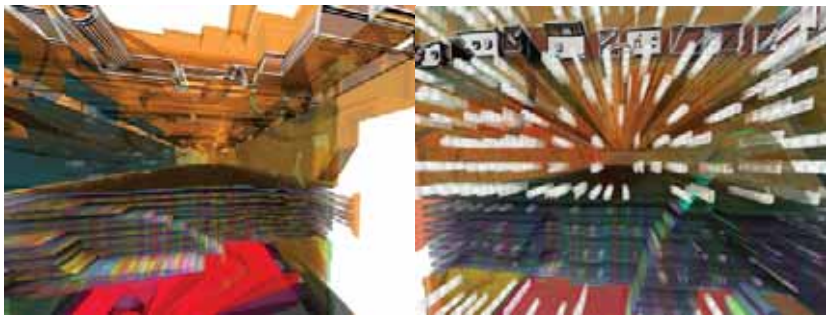


Figure 46-47: Aileen Iverson: "This field composed of objects in space; each combine through time and distance to generate the meta-organization or image becomes a 'Deep Surface'. If image can be defined as a perceivable, complete, recognizable picture than to imprint this image on a field of object in space is to create an image that is spatial i.e. relies on movement to be perceived."

Lara Guerra has been teaching at Pratt Institute for the Graduate Architecture department since 2001 and the Continuing Education department since 2003. The classes are elective classes reengineered into a studio format. The premise is to design space using 3D software as a catalyst of ideas and spatial possibilities. The intention is to gear away from the mere 3D representation of an already established design, which is polished and rendered mainly for marketing purposes. She is a fine artist and an architect working in New York City as an Associate at Perkins Eastman. She primarily works on affordable housing with non for profit organizations, countering gentrification in Harlem. She has completed more than 20 buildings in this effort and continues to fight for the right of affordable housing.