rhythm: sequence: interruption
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It would have been impossible to complete this thesis without the love and support of my family. I would like to thank my wife for her support and sacrifice throughout this journey, she is truly dedicated to me and I to her. I would like to thank my children for their unconditional love, I hope to see in them what my mother saw in me. To my mother, thank you for letting me explore my ideas growing up and seeing what most parents do not. Thank you to my brother and both of my sisters for always being there for me, providing cohesion through the hard times. Thank you to my friends, colleagues and teachers for ultimately pointing me in the best direction. Thesis is about the act of discovery and I have always lived my life as such. This notion has always been what I find most interesting and revealing about life and it would not be possible without those who have afforded me the opportunity to be who I am and who I will become. Thank you.
One year prior to the thesis I came across a simple definition by Gilles Deleuze describing the essence of a machine. It stated that a machine could be defined as a series of breaks or interruptions within a certain time frame. Deleuze’s definition can be applied to various concepts of machines ranging from mechanical apparatuses to more abstract means such as social/political apparatuses. This simple description of a machine seemed to me a profound way to describe the general experience of a building. Ultimately when moving through a building you are in a similar way confronted with interruptions or breaks. These consist of variations in light and darkness, sound, and form.
Deleuze’s description allowed me to focalize my investigation of rhythm as a design construct. Rhythm in many ways is an inherent component of life ranging from biological cycles such as circadian rhythms to climatic cycles. In fact some of the newest divisions of science such as chaos theory and cognitive research involve the study of the sequential behavior of weather and temporal aspects of music which demonstrate the ability to recognize particular relationships among a variety of elements. In a similar way rhythm is applied or revealed in architecture. Throughout the thesis I wanted to develop a better understanding of how rhythm can affect the experience of architecture.
In the most typical manner rhythm is applied in a way that is systematically easy to digest but usually quite powerful. On the other hand, it can be applied in way that is less regular. These approaches led me to believe that the inherent nature of rhythm allows for aesthetic conditions in architecture that can be both immediate and contemplative. It was important for me to establish a ground for the definition of rhythm and its qualities as a means to facilitate concepts about the thesis that remained relevant. So I began by looking at the origin of the word rhythm itself.
The Greek origin of rhythm comes from the word rhythmos. In Ionian philosophy rhythmos described a form that was improvised, momentary and modifiable. Rhythmos was also defined as a particular way of flowing. Plato used this word to describe bodily movements. He defined rhythm as “the order in the movement.” I aimed to express these modifiable moments in the entrances of the school for fine arts. Inevitably this permeated throughout the design of the school.

In some ways this study of rhythm allowed me to engage a formal approach instead of relying solely on typical rhetorical judgements generally used in designing schools.
Generally the rhetorical approach only deals with the object’s relationship to its audience and how it can instruct or please them. I believe a school (especially an art school) should only adhere to this approach marginally. It must also take into account the artist’s expressive nature and their ability to understand form. This investigation looks at all of these approaches. The margins among the different critical theories become somewhat blurred.
The site was chosen for its unique ability of addressing the main street and its location as a buffer between a residential zone and a business zone. These attributes allowed for the investigation of how the school would present itself to the public and how the school would resolve basic planning. In the midst of these questions lies the basic premise for proposing rhythm and sequencing as generative tools for the design.
As a general planning approach I decided to place the more public functions of the school towards the area of Blacksburg that is zoned as business. I placed the more private, made mostly from classrooms, towards the area of the city that is zoned residential. I felt that this would be appropriate since the notion of learning, all though it is in a very public arena and interpersonal, is still very much an individual journey that requires a certain amount of solace akin to residing in a home that is familiar and comforting. The public aspects of the school requires attention be paid to the programmatic aspects of sharing what the students learn and make with the community. I felt that this aspect needed to be placed adjacent to the urban condition of the city allowing for the influx of participants to experience what is made and achieved in the school.

I found that programmatic moments like these ones tend to fluctuate throughout the design process becoming more practical and less practical at different intervals. This fluctuation is what creates moments of intensity when experiencing a building. Once again I noticed that these moments were a manifestation of sequence and rhythm.
The design process is not entirely a linear condition. In fact by being mostly nonlinear the design outcome becomes harder to predict. This notion of unpredictability doesn’t mean that the nonlinear approach is unstable but rather it defines the very condition of what it means to create. To rely solely on a linear approach would be naive to the many facets that architecture learns from. Moretti called the nonlinear method “parametric architecture”, which described the many disciplines that architecture must investigate to be relative to the modern world.

As a student of architecture you begin to develop your own distinct method of working. You begin to find ways to translate your concepts, whether it be through sketches, models, or diagrammatic means. In this case I began the process by sketching my initial thoughts. Eventually these were brought into model form.
When sketching ideas you have the unique ability to be random while being almost simultaneous with your adjustments. In the concept stage this is a very crucial part of realizing the idea. At times certain ideas are lost through the timely manner of translating ideas through modeling or other means.

I started the initial concepts at the macro level in order to generalize the programmatic conditions that were relative to the sequence of learning. One major feature/element that surfaced was the need for a courtyard. Like many architects of the past I found that I needed to establish a place for the students to experience a sliver of nature. This gave me the opportunity for terraces facing the courtyard on the second floor of classrooms which provided a place for creating art using natural light. Cross ventilation was also available due to minimal obstructions throughout the depth of the building coupled with operable windows to the the courtyard. This is a control option for the occupants.
My approach to the thesis was that of a formal type dealing more with the aesthetic relationship between the parts of the work. I imagine this was brought about from the visual nature of architecture and the ability for the parts to reveal their rhythmic qualities. My initial ideas came from investigating the surfaces that would bind the interior volumes of space. These surfaces have a profound effect on the interior space as well as the exterior confrontation with the public. In most cases I kept the interior true to the exterior to let the surface inform both. So even though the wall is built-up of layers you still have the ability to experience both sides as if it was one surface. Throughout the building these surfaces will be altered as light and sound pass through the duration of the day giving off a sequential spatial order. Through this manifold light and sound can recede and converge to create multiple rhythmic instances.
This duration of time became an important medium for experiencing the school. Duration in this case can be viewed as having two distinct aspects: the duration of organic time is what Henri Bergson described as time as it exists in nature without abstract observation; the other frame of reference would be duration that Bergson called abstract time which is the treatment of time as an homogenous object that can be divided into measurable parts. Abstract time is basically the division of the day into hours, minutes and seconds. So as you will see this is an important element to consider in designing a school which incorporates the very idea of measurable time. I viewed these events as a sequence that would influence the spatial conditions of the school.

The essence of sequence is realized through how it is marginalized or interrupted. I began to think about how I would interrupt the space by making conditions at particular moments.
Since I knew that the circulation of students would have a significant impact on the sequence of events throughout the school I began to look at the entrance and the atrium by implying the ideas I had initially laid out. The entrance needed to be significant so eventually it became more expressive and definitive. As a threshold the entrance was the point that must be exceeded to begin experiencing a day in the school.

The atrium was thought of as a large expansive open space that would serve as a place for students to pass through while encouraging interpersonal development. As a school of art one important attribute was to include a place that would encourage discourse among those who produce art. Discussion is a necessity. Inevitably the display of the objects made from the students found its way into this area. Niches were investigated as a means to display the art. These became interruptions within that space.
The niches weren’t meant to be merely recesses into a wall but they became a display that could be suspended into the space that would allow them to be viewed from all angles and not be limited to a single perceptive point. It was important to realize that the making of art wasn’t necessarily confined to just the studio space but the discussion that would take part around these displays would further influence the creative environment.

The school also contains a gallery for exhibitions. The purpose of the gallery was to provide a place similar to the niches but more expansive in order to exhibit multiple-sized work. Having a place to display work is vital for developing a critical approach to understanding what it means to make and view art. A similar notion is taken with the design of the folding and bent surfaces throughout the interior and exterior walls. The student is always involved.
Henri Bergson said that there are two kinds of knowledge: One is the knowledge of matter, which belongs to the notion of instinct, and is encoded as a system in the sensor-motor memory of the body; the other is the knowledge of form, which belongs to the notion of intelligence, and has a seat in the affective-imaginative memory of the mind. I find that this dual nature is always present in architecture. The students of this school will be confronted with this knowledge. My aim is that the concepts set forth throughout the school will allow students to seek the necessary questions in order to develop their abilities to create art. Architecture is the perfect incubator for such a task. With it we can ask material to be something it is or isn’t. We can ask light to reveal darkness and darkness to bury light. We can ask sound to reveal heaviness or lightness. We can ask our imagination to live. There is no difference in the making of art.
It was important for the school to express the core ideas set forth in the initial concept throughout the process of design. The notion of confrontation with ideas is sometimes difficult for the viewer as opposed to the designer. It is quite easy to present the idea in an esoteric fashion thereby discarding the very reason for implementing the idea. With this in mind I began to configure how one would experience a day in this school.

Circulation through the school seemed to become an integral part of how one experiences the school. There is an influx of students during the morning which affects how the students enter and begin their day. Attached to the main facade is a transparent canopy structure that carves a path down through the earth which allows for parents to drive through and drop their children off at the lower part of the main entrance. There is also an entrance area for the bus traffic and faculty. These areas are expansive allowing for heavy traffic in a short period of time that can disperse once entered. I also view these areas as a place where students talk casually about what they are involved in, namely being engaged in the production of art.
The four entrances can be viewed as conduit or apertures that focus on the seeking out of knowledge. Through this conduit the student embarks on the duration of a school day in a remarkable school rather than the mundane school. This entrance begins the rhythmic sequence of structured program coupled with the formal/spatial embodiment of place. These entries lead the student into atrium/lobbies that access multiple corridors allowing the student to effectively find where they need to be. Natural light illuminates the end and beginning of the corridors indicating a visual marker that changes throughout the day based on the duration of light. The duration of natural light also reveals a change in the interruptions that occur throughout the corridor. There is a break within the line of classrooms that contain areas for lockers and places to rest and be socially interactive. This happens in section also duplicating the experience on both floors. I call these areas locker pods.
The locker pods provide breaks along the general circulation paths that allow students to have practical access to their lockers in between classes. The locker location differs from the normal corridor-lined lockers that are grouped typically inefficiently throughout a school. Even though I view the school as a work of art in itself I always re-aligned the mechanisms of efficiency in order to keep the school configured as a gestalt rather than a large sculpture. A school has to still be able to perform as a school and meet the demands of public scrutiny.

These locker pods reflect and induce the concept of sequence and rhythm in both its interior and exterior conditions. The natural light that enters through the pods give periodic light as you move through the corridor giving the rhythmic experience revealed through the absence of direct light contrasting with the existence of natural light at a certain interval. To amplify this tectonic condition the flooring material also changes when the the threshold of the lockers is reached translating from unpolished concrete to white granite tiles. The granite serves to reflect the natural light and bring the concept of sequence through to the surface of the ground.
Sound also serves an important role in describing the sequence of the building. It is omni-directional at low frequencies and linear at high frequencies which adds another layer and dimension to the experience of a day in the school. As you pass through the locker area you are confronted with an approaching change in perceived temperature due to the radiant effect, as well as reflection of sound. This is due to the amount of heat that enters through the glass and the material composition of the locker pods. As you pass through this area it will have a notable change. The experience is compiled of multiple sense impressions which is paramount if the student wishes to develop their senses as artists.

The walls of the classrooms that line the corridors also have a particular sequence which contrast to the that of the courtyard facing wall. The classes can be read as an undulating continuous surface. Artificial lighting for evening use follows the undulation as a recessed line of light in the ceiling that is broken periodically by the locker pods. The floor surface of the corridor changes from polished concrete to unpolished and then to granite in the locker pod. The distinction is regulated by joint lines that are cut into the concrete which also serve to control surface cracking. This creates a tactile threshold at the onset of the locker pod.
The second floor classrooms contain terraces that allow the student to create and observe art with natural light compared to working in artificial light. This is especially useful for painting and sculpture. A piece of art that is constructed with the tool of artificial light will appear quite different when viewed in natural light. The same rule applies to art made with natural light. The terraces overlook the courtyard and are large enough to accommodate many students at a time. Being outside makes the student confront the sequence of duration which counters the stricter nature of a divided school day. Duration of the cycle of the day and seasons gives the students a new way to reflect their ideas and confront their senses.

This cycle starts to confront the most typical ocularcentric view of making art by adding all of the stimuli that is involved with being outside verses being inside. These confrontations would allow for a more productive and critical approach to the making of art. It is this same notion that applies to the entire school. The same concerns are discussed throughout the language of the building rather it be offices or cafeteria. In this way the building serves once again as an incubator for the development of the student in all the facets that are deemed necessary to embark in the world of fine arts.
As you enter the gallery space you first notice that the volume is encapsulated by surfaces that initiate interaction with the viewer/occupant. The floor is initially the same color granite as the atrium but then changes to a lighter white color granite for directionality into the gallery which becomes divided as a threshold and viewable gallery space. The black granite in the transitional area pulls the northern light from the outdoor sculpture garden into the gallery space through its reflectivity. This also allows for the reflection of the sculptures to seep into the interior space. An array of large glass pivoting doors can be left open to make for a seamless transition into the garden bringing the space inside. This idea is continued in the main gallery space through the roof by letting indirect natural light into the space. This happens through a series of openings where the surface is cut and pivoted back creating a sequence of light. The indirectness of the light is very important for maintaining an adequate exhibit area. This particular area will provide enough room for multi-story exhibits and installation. It was important for the gallery space to be a volume that doesn’t limit the artist based on sized rooms, instead the space can be configured in a responsive manner especially vertically. The vertical aspect of exhibition space is rarely used to its potential.
As you move among the various spaces within the school you will notice that the volume is an encapsulation made from surfaces that describe what is material and what is void of material. This makes for interaction of the senses. What can be formed in material can transcend from built form directly and indirectly to the student through the duration of observation. Thus augmenting their knowledge and judgement. What can not be formed from material has to be thought of in a different way for the student. This nonmaterial form is subject to what binds it, making the experience from nontactile things such as light and darkness. The thesis undertook these conditions to make a place where observation is inclusive. Observation is the step in which a student must invoke their intellect to understand their purpose as an artist and to define their own uniqueness. Perhaps this is an atypical way for students to learn with regard to art but the making of art should be anything but typical.
1. entrance
2. lightwells
3. exhibition space
4. mechanical room

sublevel

1. atrium for drop-off
2. mechanical rooms
3. circulation/lightwells

SOUTH MAIN ST
second level

1. Open to atrium below
2. Classrooms
3. Lightwells
4. Library
5. Lounge
6. Terraces
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