

The Design Process: Charcoal Drawings, The Qualitative Representation

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“So this is a kind of invention that comes out of the desire to have natural light. Because it is the light the painter used to paint his painting. And artificial light is a static light . . . where natural light is a light of mood. And sometimes the room gets dark – why not? – and sometimes you must get close to look at it, and come another day, you see, to see it in another mood – a different time . . . to see the mood natural light gives, or the seasons of the year, which have other moods.” Louis Kahn discussing the Kimbell Art Museum.

Beginning design studios generally stress a quantitative method of representation; a method that describes a project in a formal and precise manner, typically included are hard-line plans, sections and elevations. Absent or underutilized from the design process is a qualitative method of representation that records more of the evocative qualities of a project. This qualitative method of representation is emphasized in my teaching process through the use of charcoal drawing as an exploration of space and light. It is especially important that this method be taught in the beginning design studio so that students incorporate qualitative representations into their own design process. The same rigor that is applied to orthographic drawings is applied to these qualitative drawings thus establishing a strong foundation for this type of drawing to remain with the student.

The method of charcoal drawing I emphasize allows the student an opportunity to provide tactile qualities of space, light and materials. The evocative nature of the space is revealed in these drawings. The medium itself allows an artistic freedom to describe space and derives strength from the high contrasts in light and shadow. Its “messy” quality liberates students from their own fear of sketching “incorrectly”. It is the strength of the medium as a bold, expressive device that I find extremely helpful in the studio setting. Even quick sketches take on a dramatic quality when rendered in charcoal. Students learn to express their ideas in a graphic format that explicitly renders light and time.

As part of a 2nd year design studio I taught at Clemson University, students were introduced to the design process through three projects ranging in scale and complexity. The studio theme centered on the curriculum driven title of “settlement and institution”. During the first assignment, a 250 SF room for a traveler, I required students to use charcoal drawing as a tool to investigate spatial intentions. Charcoal drawings were developed continuously over the 4-week project to not only understand material, scale and movement but also to describe how light can help define space and its relationship to the traveler. The project was intentionally small in scale and internally focused to increase the students’ awareness of the play between space and light.

Although this discussion of charcoal drawing within the beginning design studio will focus on the first project, I will briefly describe the two subsequent projects in the semester since the programmatic elements between all three assignments were interrelated. A two-week analysis project of Greenville, SC (the location of the 3rd project) followed the *room project* while the remainder of the semester was spent designing an indoor public pool. Each assignment built upon the previous. The projects progressed from the scale of the individual to that of the collective in an urban setting. The scale of the individual was also relevant to the pool project, especially in the transition spaces from the lockers to the pool. Throughout each exercise, charcoal drawings were used to express evocative qualities that traditional hard line drawings could not reveal.

As part of the traditional method of representation and to allow for an overall understanding of all the projects, students were asked to prepare plan, section and perspective drawings. The interior perspective views were generally rendered in charcoal. The students were able to explore the intimate spatial conditions of the room through light. As beginning design students, the ability to render “designed space” is difficult. Therefore, studies of existing spaces around the school and on campus formed the core of drawing lessons at the beginning of the

semester. Several days each month were spent drawing existing spaces including the diving and lap pools, thus linking the drawing assignments to the design assignments. Drawing sessions were often started with *blind drawings* to allow students to free their minds from preconceived notions of objects and space. The sessions also enabled students to practice their sketching and drawing techniques using the charcoal.

As mentioned, the first project, a room for a traveler, challenged the students to deal with intimate space and the human figure. Each student was asked to design a place of occupation for a single traveler seeking solitude during his or her travels. The room was to be thought of as a temporary-resting place for the traveler, but permanently located within a building near the airport. Two walls were considered interior and could not be punctured while the remaining two walls and ceiling were all exterior and could be penetrated.

The program stated that the traveler would use the room for cleansing, changing clothes and relaxing for short periods of time. Standard programmatic elements included a dressing area with a space for hanging clothes, a sink, a tub and shower, a small steam room, a toilet, a worktable and a resting surface. As part of the assignment, students were challenged to think beyond the typical arrangement, size and shape of the programmatic elements. They were asked to consider the ritualistic aspects of cleansing, dressing and resting, constantly questioning standard conventions. In some cases students combined programmatic elements like the resting surface and the bathing area into a single sensual form. These newly created forms were often juxtaposed against a window creating an amazing filter for light into the room. The room contained very few elements, therefore the focus could be made on the surfaces and how they shaped space, reflected light and moved and propelled the traveler forward. It was emphasized that the issue of pragmatics alone would not be sufficient to solve this problem.

The site for the room was left specifically ambiguous as the focus was on the interior shaping and making of space. The orientation and standard wall thickness dimensions were provided to assist in the constructing of openings in the exterior wall. In a sense, each student was given six flat wall surfaces of a container and within that confined space, the student was challenged to mold, form and manipulate volumes of space. The project assignment stated that the room faced south and west in an existing building and was located on the top floor. Students utilized this orientation to accentuate lighting qualities within the room. The charcoal renderings captured the use of overhead and side lighting to draw the traveler into and through the space.

By focusing on the needs of an individual, students could express the shaping of space by the specific parameters of the

human body. Interaction between people within the space was unnecessary but the interplay between the human form and the programmatic elements was essential. How light was cast into the space relative to these programmatic elements was developed through the charcoal renderings. Students used the drawings as a way to render the experiences of someone inside the space and thus could be used to help further develop the intention and meaning of the space and light. Students focused on the relationship between fixtures, walls and occupied space at the scale of the individual, while recognizing the significance of the body, its measurements and its manner of movement. The charcoal renderings emphasized these specific elements of space, movement and light. Inherent in the project is the idea of ritualistic movement from space to space. Though small and compact, each position within the room could be thought of relative to the wall openings, wall surface and carved spaces.

The charcoal drawings were not only presented at the final review, but were part of the entire design process, as part of the study of the ideas. The importance of these drawings in reviews was also immense. Sharing the quality of space with the reviewers was more important than describing the plan, section and elevation of the design. Hard line drawings described how one creates the space while the charcoal drawings described the quality of that space. Also of equal importance was the use of study models throughout the design process. Study models were used in conjunction with the charcoal drawings. The models served as a clear indicator of the light quality and light direction that the space would accommodate. The process was an iterative one. Ultimately, the drawings were able to describe the experiential character of the sequence of spaces seen in the models. Students could use the study model to create their charcoal rendering.

METHODOLOGY

The actual method of drawing with charcoal usually started with a blank white sheet of Strathmore paper. Each student would shade the entire page with the side of their charcoal stick. By reversing the page from stark white to shaded black or gray, students were relieved from making that first mark on the page. By putting down a tone of gray the student can either add light or shade. Students could mark with the charcoal for black or use their eraser to attain white. Levels of gray were also possible through rubbing the black marks.

After shading the entire page, students would then create the perspective drawing by adding planes to describe the space. I encouraged lots of smearing and rubbing on the paper with either the heel of their hand, fingers or a rag. The drawing was made less with individual marks and more with swaths of shade defining the lights and darks of the surfaces. Mistakes could easily be fixed with the potential of adding more black or gray or erasing for more white. Students were therefore not restricted

to the idea that mistakes could only be erased. In a sense, there was a real massaging of the paper to work the image into place.

The students used charcoal sticks instead of charcoal pencils because of the ability to create a larger variety of strokes. The charcoal stick provided a myriad of possible marks on the page depending on the length of the charcoal stick, pressure applied by the artist and the positioning of the stick, whether vertical, horizontal or angled.

In addition to the constraint of the implement being used, I asked the students to focus on just black and white charcoal drawings leaving color to other investigations. I felt that it was important that students' focus on the aspects of high contrast found in black and white charcoal instead of the variations of colors. Using black and white charcoals allowed the student to focus on the aspect of lighting as a major element. Similar to black and white photography, the essence of the space and light is revealed in charcoal drawings. Color often adds layers of less important information, which mutes the strength and clarity of the high contrast rendering.

After some resistance, I think all the students saw the benefits to the charcoal renderings. This drawing type enabled students to reveal the experiential nature of the space in a very evocative manner. The drawings could be quick but effective at conveying qualities of space. It enabled students to describe their design and their intentions through high contrast, light enriched drawings.

Similar art forms like photography rely on black and white imagery to enhance and reveal spatial qualities. Walker Evans, well known for his black and white documentary photography during the Depression, only started using color photography much later in his career. He has suggested that until one has mastered black and white photography, one should not try using color film. His suggestion translates to charcoal drawing as well. In a sense, there is plenty to discover within the realm of light and shade.

NOTES

Johnson, Nell. *Light is the Theme: Louis I. Kahn and the Kimbell Art Museum* (Fort Worth: Kimbell Art Foundation, 1975) pg. 17.