Dissecting the Programmed Landscape: A Programming Primer

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INTRODUCTION

James Corner describes urban form as a "living arena of processes and exchanges over time".[1] Attempting to understand these morphological properties helps provide insights into causal characteristics of built form in lieu of simply focusing on the object qualities of our environment.[2] When attempting to decipher or decode the litany of exchanges layered within our commercialized landscapes, and their reasons for existence, a number of questions arise. What are the historical processes that have evolved into to this particular type of layering? How can we more objectively assess landscapes that have undergone a form of reification that challenges our perceptions as to what is *natural* or *inevitable* about the spaces we inhabit? To what extent has the public realm been affected by privatization and commoditization? How are local and regional identities impacted by the evolution of global markets? What are the short and long term effects on human beings and our environment of spatial realms constructed primarily for profit and speculation?[3] How do these realms affect our perceptions of space, our sensibilities, our imaginations and our actions?

To probe these questions I deliver a problem each spring to the students in my fourth year Architectural Programming class entitled *Dissecting the Programmed Landscape*. This project, a comparative analysis of two commercialized landscapes in Moscow, Idaho, attempts to demythologize these built environs to help uncover the underlying dynamics and organizational principles that caused their specific formation, setting them on their current evolutionary track. Within this project I ask that the students use mapping as a vehicle of discovery and mechanism for communication. They are to think of their maps, the 2-dimensional sheet of paper, not merely as a representation of an existing landscape, but as a new landscape within which new spatial rules can be established. The objective of the mapping problem is that the students become aware of the programmed, experiential, social, political, and cultural elements embedded within the landscape and use mapping as a means of understanding and communicating these phenomena.

J.B. Jackson suggests that the road acts as the social unifier in the American landscape.[4] *Dissecting the Programmed Landscape* is a mapping problem that attempts to assess the character and meaning of these roads.

PROGRAMMED LANDSCAPE DEFINED

In order to understand our local landscapes it is important to examine the decisions that resulted in the overall structure that these landscapes exist within. During a single lecture that immediately precedes the mapping problem I discuss the term "Programmed Landscape" with the students. The word *programmed* as a part of this term is meant to signify an orchestration of event spaces over time. It is in no way meant to imply a single controlling force or ideal that permeates the

landscape but rather an accumulation of decisions and actions. The layering of the contemporary American city is a manifestation of decisions often isolated from one another yet yielding a new built manifestation which is a continually evolving cultural mirror.[5] As a primer for the project I discuss a number of events that have helped generate our contemporary landscape. For instance, we discuss the Land Ordinance Act of 1785 as an important early programmatic intervention into the western landscape. The result of this act, sometimes referred to as the Jeffersonian Grid, is a parcelization of the American west into a series of 6 mile X 6 mile townships, the primary intention of which, at least according to Jefferson, was the equal distribution of land so that as many people as possible were afforded the potential of land ownership.[6] This was an attempt at programming the democratization of the American West, as well as generating tax revenues for a young country. Of course, the Land Ordinance Act contained other key programmatic values as well. Gridding this seemingly unending space would provide a sense of geographic order on an otherwise chaotic landscape. The American West, with all of its geographical diversity could now be referenced from afar as an abstract commodity.

As a class we discuss how lines inscribed in the western terrain tell a story about a specific late eighteenth century ideology. These lines, now roads and political boundaries, form the basis for the experience of space and time by those who live among them. The permeation of the grid across the American West was not an inevitable occurrence but rather the result of social ideals meeting serendipitous opportunity. We discuss the larger scale landscape issues as a class because they help us understand the nature of the micro scale issues and their effect on our everyday experience. In Jefferson's case, what began as a radical national scale programmatic idea slowly evolves into regional and local nuanced formations as the larger grid meets political and geographic nuance, broken into smaller and smaller units over time. The majority of these smaller units are themselves a result of new programmatic impetus applied to a given terrain through various congressional acts.

If this reticulated landscape, with all of its evolved macro and micro scale variants, can be thought of as the first visible programmatic layer cast by human beings upon the American West, then we likely have to consider the railroads as the second programmatic layer. James Corner, in *Taking Measures Across the American West*, writes that the "west was won not by the frontier people or the pioneer wagon but by the railroads".[7] The railroads follow their own pattern and logic based on new politics, geography, technology, and human settlement among other things. As a class we discuss the nature of the railroad, its effects on western settlement, its ability to change how human beings think about and exist in space and time, and its propensity to create new centers around which numerous towns and cities began to evolve.

With new technologies other possibilities arise within landscapes that were previously uninhabitable. Center pivot irrigation allows farmers to draw water from deep aquifers and create lush farmland in the desert. These circular crop formations pattern the western landscape, becoming another in a growing web of layers.[8] As we discuss as a class the multitude of layers in our landscape and we inquire as to their programmatic origin the students are asked to make further connections to local landscapes and buildings. Just as Jefferson's grid had, at its root, a philosophical idea, the highway spaces that we were about to explore had theirs. As human beings we have a tendency to reify these landscapes, assuming that the nature of their existence was inevitable. As we move into the mapping assignment I explain that the maps are an attempt to dissect the layers of the landscape in order to understand their origins and potential implications. The purpose is that this helps inform the students about the intentionally programmed layering of the built environment with the hope that they make more informed decisions when it comes to site development and potential occupation. Our efforts at mapping the urban realm are not unlike Jefferson's desire to map and measure the American West. This is a terrain full of secrets and potential that needs to be measured in an effort to understand the dynamics at play within our everyday experience.

PROJECT DESCRIPTION

The Landscape Dissection project is a comparative analysis of two landscapes in Moscow, Idaho, using mapping as a vehicle of discovery. I give the students two highway stretches in Moscow and ask that they form a three to four person team and compare the areas based on identical criteria

that they've established. I ask that they focus primarily on the commercial edges to reveal the programmed, experiential, social, and cultural elements embedded within this landscape. They are further asked to place their findings onto a 24X36 board within illustrator; thinking of the board as not only a re-presentation of the chosen landscape but as a new landscape.

I teach the students various ways one might think about mapping as a process and we discuss the nature of all maps as abstractions that focus on a set of issues or ideas decided upon by the map maker. I ask the students to layer their map based on the dissected view of their chosen landscape. For instance, they might choose to focus only on artificial colors in the landscape, eliminating everything else that might distract from that focus. By doing this, these colors then become re-presented on the board as separate, isolated moments in space. The students then begin to see which colors predominate in these landscapes and why this is the case. If a student is interested in exploring time scales in relation to the landscapes, such as bike, foot, auto and airplane, they might separate out the elements that allude to those time scales, eliminating all else. This method allows them to focus only on the information they are exploring and therefore keeps them from getting bogged down in the unnecessary details that fall outside their study. Multiple studies by various teams and a discussion of the findings allow us to re-form the landscape as a whole, but now with a more intimate understanding of its parts.

The project asks that the students dissect these landscapes in an effort to uncover the underlying dynamics and organizational principles that caused their formation and continual evolution. This is an exploration of the ecology of the mechanics of the city.[9] The project is short term (3-4 weeks) and encompasses only a moderate portion of the student's grade for the semester. The historical tendency has been for the student teams to try to take on too much within their chosen landscape. The initial deliverable of the project, wherein I have the students provide a sketch and brief description of what they're interested in studying, is a valuable stage where we eliminate any complexities of scope that would potentially result in less critical depth and specificity.

As mentioned above I ask that the students to think of the space they're dissecting as an accumulation of a complex set of processes over time.[10] Most of the inquiries that the students undertake have a primary emphasis on the process qualities of space, rather than its object qualities, although there is no requirement to that end in the given assignment. The projects also often explore space at a number of scales. The project premise is rooted in the ideas James Corner discusses in "Terra Fluxus", that urban landscapes are an accumulation of forces and flows in relation to built form.[11] We discuss these ideas as a class and they consequently become an important component in many of the studies. Many of the projects also include inquiries into the social, cultural, and economic drivers of spatial evolution and manifestation. If urban form is a "living arena of processes and exchanges over time" as Corner suggests, and if these processes have specific consequences, most of which go beyond simply the resultant built form itself, then it is critical to understand the nature of this evolution.[12] Throughout the study the students are challenged to not merely uncover or decode effect but also to ask critical questions about cause all in hopes of "shifting attention away from the object qualities of space".[13]

In addition to the above we discuss Alex Wall's ideas of a landscape of "restless mobility, consumption, density, waste, spectacle, and information" and ask that these be examined as a part of the mapping exercises.[14] This project is our attempt to "unfurl the nested scales within the highway landscape".[15] What are the processes that lead to the layering and scales of the landscape and how do they become manifest into built form? What is the effect of that layering and form on human occupation, imagination, and perception? How has this landscape been programmed, and specifically, what are the programmatic values involved? Finally, how does programming act as a driver of built form?

THE LANDSCAPE DISSECTIONS

Deciphering the landscape through the process of map making gives indication of the social and political decisions that were made that helped formed the landscapes in the first place. Choosing a moment or two within the landscape to understand in great detail allows you to see it again for the first time. One student group chose to explore artificial illumination within the landscape (Figure X)

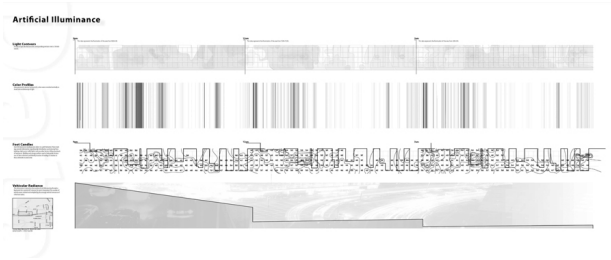

Figure 1. Artficial Illumination

The study of artificial illumination (Figure 1) used light readings from a ¼ mile stretch of highway and adjacent landscape to determine how much artificial light existed in the landscape at three times of day: 9 p.m., 12 a.m., and 3a.m. The map consists of four bands of information. The top band of the map represents light contours derived from a light meter and taken over a 30 minute time period. This band makes clear the slight disappearance and reemergence of light in the landscape over the 6+ hour span of time. The next representational band indicates color profiles taken from panoramic photos looking north from the south side of the highway. The colors and intensity of light in these photographs were stretched vertically for graphic clarity. This layer of the map acts as another qualitative measure of light in the landscape and relates directly to the light readings in the bands above and below in most instances. The third band from the top is a foot candle reading of the landscape. To measure this, over 450 light readings were taken in a grid pattern. These light readings measure light from buildings, streets, traffic, cars, and any other artificial light sources. This is a quantitative measure of an amount of light at the three time periods specified above. Included in this band is a continuous line representing building edges. The last band on the map represents light readings based on artificial illumination from automobiles only. To extract this data the students counted vehicles for 5 minutes at a fixed point within the ¼ mile stretch. They then multiplied the total number of vehicles with the average vehicle illumination at a five foot radius.

Another student group chose to explore scales in relation to human occupancy (Figure 2). Their map explores the ratio of space given over to specific program in relation to number of people served by the program. The lower portion of the map shows a scaled plan of the ¼ mile stretch of landscape while the top-middle portion of the map shows the buildings scaled based on the number of people who patronize the given establishment per week. This map study also explored the presence of local, regional, national, and global businesses within the chosen landscape. The geographic location of these businesses is identified within the top band of the map by dots whose color corresponds to the colors given to the businesses in the map below.

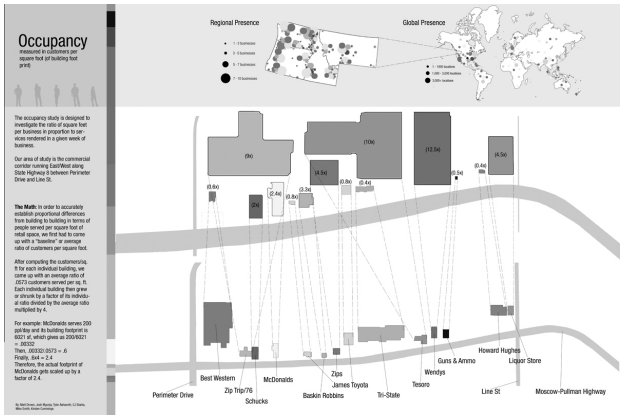

Figure 2. Occupation

The map in Figure 3, titled "Time" is a study of four times scales within two seemingly distinct landscapes. The area analyzed in the top half of the map is a commercialized highway landscape, while the bottom of the map is an analysis of Moscow's historic Main Street. The first and largest time scale is that of the date of origination of the businesses in question. In other words, how long the businesses have been operating from that location. This gives a sense of levels of transience and permanence within the analyzed landscapes, providing clues about the evolution of the landscape over several generations. The second time scale represented is that of the individual businesses' hours of operation. The reading of this graphic gives insights into the life and pulse of the street that these businesses are instrumental in helping create. The third time scale embedded within the map is that of the busiest times of day for the store. This information supports the above notion of the maps ability to graphically indicate the life and energy within the business and on the street. The fourth and final time scale is the average length of time that customers spend in the store.

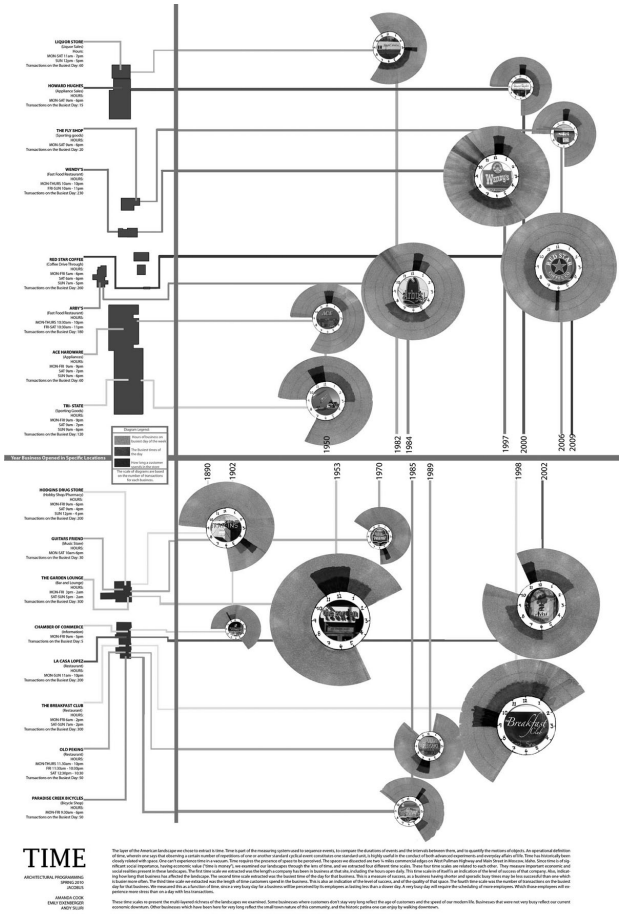

Figure 3. Time

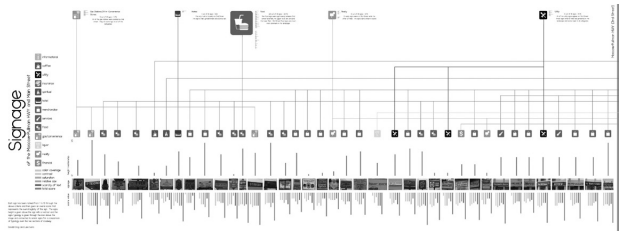

Figure 4. Signage

Figure 4 above (only half of map shown) is a signage comparison of a commercialized highway landscape and Moscow's Main Street. A band of photos of the signs that have been analyzed anchors the map toward the bottom while a criteria list that includes amount of text, size of sign, and abundance of color, among other things is extrapolated under the sign images. Lines directly above the sign give indication of the relative height of each sign within the landscape. Above these lines is an icon that indicates the particular type of business that the sign serves. The top band of the map expands these icons to a size that is based on total number of business type that the signage serves within the analyzed stretch of landscape.

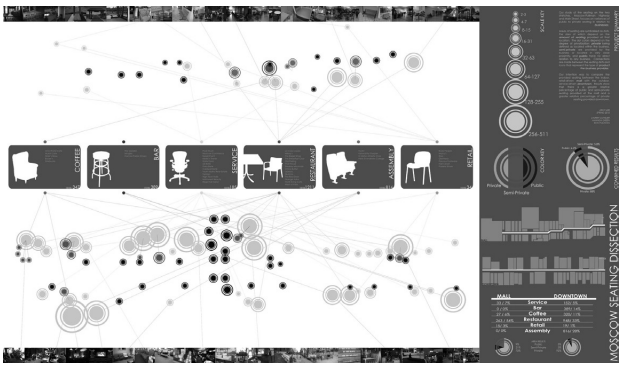

Figure 5. Seating

The map in Figure 5 above analyzes public and private seating options in relation to specific businesses. Seating within and outside of an indoor mall along the Moscow-Pullman highway was compared to the interior and immediate adjacent exterior of businesses along Moscow's Main Street. Areas of seating are indicated graphically as dots whose size relates to the amount of seating provided in a particular location. There are three designations made between types of seating within the map; private, semi-private, and public. Private seats are located within the businesses, semi-private seats are located outside the business but within a close proximity, and public seats have no direct or clearly identifiable relationship with the business. These use designations are graphically defined by color within the map; the lighter the dot color the more private the seating. Types of seating are indicated in the middle band of the map and lines from the dots connect to the middle band to indicate the type of seat in each studied area. The area of dots at the top region of the map represents the indoor mall while the dots in the bottom area represent Moscow's Main Street. A quick glance at the map gives indication of the abundant presence of private seating that has a direct relationship with private business. The indoor mall landscape has very little completely public seating that is not associated in some way with a commercialized surrounding. The Main Street landscape has a specific area of

public seating that is not readily perceived as being attached to private business.

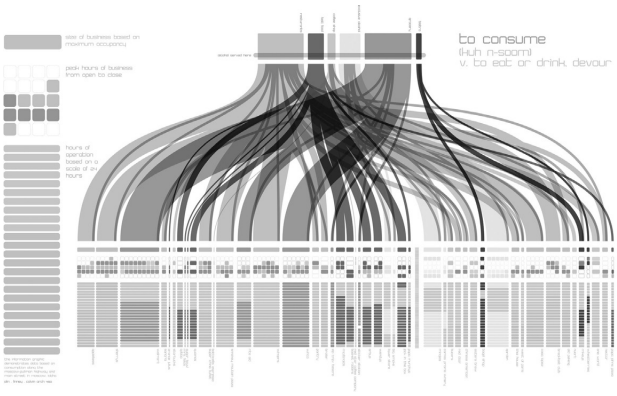

Figure 6. Consumption

Figure 6 above is a map that compares types of consumption between the Moscow-Pullman highway landscape and the town's Main Street. The map is broken into six distinct types of business delineated by color. The highway landscape is graphically portrayed on the left half of the map while a vertical grey line separates the Main Street landscape portrayed on the right half of the map. The bottom band of the map indicates the store names, their relative geographic footprint, and their hours of operation. The middle band of the map, dominated by squares of varying hues of color is an indication of peak hours of operation for the businesses in question. As indicated on the map, the highway landscape is dominated by restaurants, grocery stores and fast food restaurants while the Main Street portion of the map is dominated by restaurants, bistros and places that exclusively sell alcohol.

Intensity of Use (Figure 7) is a map that compares intensities of use over a ¼ mile stretch of mall on the east side of Moscow to the town's Main Street. The Main Street portion of the study is located on the left side of the map while the east side mall is located on the right. To collect data for this map the students interviewed store owners regarding peak times of use. The lighter color on the map indicates weekday use while the darker color indicates weekend use. A timeline of use is located vertically on the map beginning at 6 a.m. to 12 a.m. from the center to the top and then again from the center to the bottom. The more solid, larger color blocks represent high levels of intense use while the dithering of the blocks represents sporadic use.

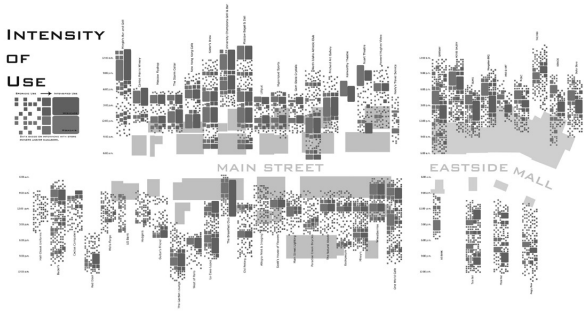

Figure 7. Intensity of Use

CONCLUSION

The vast majority of students at this level believe that the typical retail dominated American landscape is wrought with problems. This exercise does not introduce them to these problems but it does offer them the chance to examine the problem in more depth. In *A Sense of Place*, J.B. Jackson suggests that the road may be the thing that first brought us together as a society.[16] The road today is a landscape that is continually reborn as the manifestation of social and political will. Along with the road come its necessary amenities, the power line, the side walk, the billboard, and the street light. How do architects began to question and explore this "complex conceptual apparatus" that eventually becomes their building site?[17] The American landscape has been accused of being non-existent in its pervasive similitude. But to ignore these landscapes because of their seeming monotony would be to neglect asking questions which could eventually help transform them.

We have a tendency as human beings to reify those elements that we are in constant contact with; often forgetting that we have now authored the majority of our physical environment. The Landscape Dissection project is an opportunity for students to uncover elements in the built environment that may otherwise be accepted as natural or inevitable. This project provokes students to ask questions about the shape of content in the landscape and look with fresh eyes

at realms that may have grown dangerously too familiar. These maps are abstractions that often stimulate revelations. Through this process the students learn to use mapping as an exploratory *and* communicative tool; as a means of analysis and understanding.

ENDNOTES

1 James Corner and Alex S. MacLean, *Taking Measures Across the American Landscape* (New Haven and London: Yale University Press, 1996)
2 Charles Waldheim, editor, *Landscape Urbanism Reader* (New York: Princeton Architectural Press, 2006)
3 Waldheim, *Landscape Urbanism Reader*
4 J.B. Jackson, *A Sense of Place, A Sense of Time* (Albuquerque, University of New Mexico Press, 1985)
5 Waldheim, *Landscape Urbanism Reader*, 91
6 Corner and MacLean, *Taking Measures Across the American Landscape*
7 Corner and MacLean, *Taking Measures Across the American Landscape*, 9
8 Corner and MacLean, *Taking Measures Across the American Landscape*, 9-11
9 Waldheim, *Landscape Urbanism Reader,* 80
10 Waldheim, *Landscape Urbanism Reader*, 28
11 Waldheim, *Landscape Urbanism Reader,* 28
12 Waldheim, *Landscape Urbanism Reader,* 28
13 Waldheim, *Landscape Urbanism Reader,* 28
14 Waldheim, *Landscape Urbanism Reader,* 78-79
15 Waldheim, *Landscape Urbanism Reader,* 119
16 Jackson, *A Sense of Place, A Sense of Time,* 189
17 Waldheim, *Landscape Urbanism Reader,* 17