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Activating the Void: Exploring the Abstract Notion and Manifest Reality of the Grid i

by Megan L. Lutz

A Terminal Project

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ii

Activating the Void Exploring the Abstract Notion and Manifest Reality of the Grid Megan L. Lutz



Project Abstract

The grid plays an ever-present role in our daily lives--however, its time as an authentic

organizational tool used to cultivate the terrain and encourage rapid growth has passed and its effects upon the individual experience must be re-examined. This project seeks to scrutinize the grid city through an individual's personal lens, to create an intervention based upon activities, perceptions and interactions at the street level.

As it progresses south of O Street, Lincoln's downtown deteriorates into a grid without a defined streetscape, a collection of individual buildings overshadowed by the space between them. Consisting of nine square blocks, the chosen site straddles the transitional condition, allowing for an investigation into the changing spatial circumstances, most notably the voids. The site is noted as the financial district--hence, the majority of its population leaves at five, relegating the night time street to the few pedestrians simply passing through. The proposed program of student housing and an urban "park" addresses the population problem by supplying 24 hour residents and providing for the needs of the current daily populace.

The design itself seeks to reveal the nature of the grid and react against it while revitalizing the activity levels within the site. With focus upon the alleys and voids, each block becomes a microcosm of the greater grid and the forms innate to it. The intervention's engagement with the sidewalk and streetscape create directionality within the greater site, while heightening the pedestrian's awareness of the grid by breaching its traditional tendencies and boundaries. vi





Introduction This project has evolved quite a bit since I started working on it one year ago--it has changed from a small scale infill project into a rather personal look at the city and my own views on architectural process. While it may not be readily apparent via my drawings (or maybe it is if you get up close enough to read all the little notes I left for myself), the most educational part of

this project was just being allowed to explore my own interests and then turn that into a critical look at my own process and placement of value.

The initial intent of my project was essentially just to analyze a part of downtown Lincoln that is not very active, although my interest in it was not just because of level of activity, but of the spaces themselves. The site chosen is a representative set of nine blocks that straddles the portion of downtown where dense development turns to parking lots and object buildings. During this year of working, I walked through the site at least once every day on my way to studio, and the variety of built conditions creates a constantly surprising spatial experience--if you know where to look.

However, as I walked through the city, I noticed how the majority of pedestrians function within the environment--head down, hands in the pockets and looking either at the sidewalk or straight ahead. As shown in a series of photographs I took, this way of walking the city leads to a rather repetitive set of spatial geometries due to the strict nature of Lincoln's grid. The spatial variety and richness of texture that I had been photographing in the voids of the city go unnoticed by the majority of the city's inhabitants.

This inspired me to figure out a way to make people appreciate the part of the city that I find so intriguing--which led to this project. One of the best aspects of this project, as well as the most frustrating, is the fact that I entered into it with no notion of what it would look like, or even of what it would be. I was counting on my investigations within the site to determine a program and a form--which, in due time, they did.

Which then led to a more personal critique of my process and intentions. In the design of the actual building I try to work not just in the typology of the extruded building that the grid tends to create, but rather to design to acknowledge and integrate the voids into the building. Attempting to design with a critical eye to the standard inevitably leads one to doubt their own design-after all, it is a standard for a reason. This is where the value of my project lies--not necessarily in the end product, but in the debates I had with myself while creating it. The project was never the emphasis for me, but was instead a method and a tool for exploring the issues that interested and challenged me.

- Megan















Washington, DC

Lincoln, Nebraska

San Francisco, California

The Generic Grid City

Lincoln's grid system is incredibly strict in that it is completely square. Where other cities such as New York have elongated blocks that distinguish between North/South vistas and East/West vistas, Lincoln's streets, regardless of direction, share the same relationship with their bordering blocks. The streets go on endlessly, whereas other cities' have a range of conditions that add variety to the spatial experience.



The grid creates a particular experience--- an experience that is repeated on every corner and every street.

As people walk down the street, buildings change, but the overall spatial qualities remain the same, creating a sense of placelessness. The grid has become such a presence within the city's reality that it isn't questioned. The streets are incredibly wide, and the view is dominated by cars. The focus of the vistas within the site make the street a mechanism to deliver people from one point to another rather than an event. The grid's economy, in primary application and current use, negates the need for specificity.

Original Lincoln City Plan Via Nebraska State Historical Society Through investigations and analysis of the site as a sample of the overall grid system, a perceived, or implied grid revealed itself. By layering the process of the grid--starting as an abstract notion of a city, which is then centered around the capitol, and then altered to fit the needs of the city--the relationship between the site's implied abstract grid and the actual manifestation of the grid is revealed.



Implied Grid



The Perceptual Grid

A mechanism used to organize space within drawings, the perceptual grid has been used to analyze the experience of the site within the city of Lincoln. The organization of every vista from every sidewalk shares the same qualities--everything converging. Through skewing

these organizational lines, the city grid can potentially be interrupted. This idea remains through the development of the design method and process articulated later in the book. Within the exisiting grid structure there is an infrastructure, mostly ignored, that has a distinct directionality-- the voids. The Lincoln Grid, although not indicated in the original plan, lays out an infrastructure of East/West alleys that divide each block. The accentuation of these spaces, like the layout of the New York grid, can create a sense of orientation within the otherwise placeless city plan.



The Voids



Works Reviewed

City Plan for Melun-Senart, France Office of Metropolitan Architects

"The voids exercise a greater effect on the subsequent built environment than does the design of particular building layouts. . . Melun-Senart continues a logic that progressively reverses the significance normally attached to buildings and directs attnetiong instead to the spaces in between."

-Alex Wall, Recovering Landscape

Whereas this project attempts to react to and articulate the nature of the voids within the city, in Melun-Senart, OMA designs a city via the voids, rather than the buildings themselves.





Th High Line, New York, NY Field Operations and Diller & Scolfidio

The High Line is an inoperative elevated railway that runs through the West side of Manhattan. In its current state, shown in Joel Sternfeld's photograph on the left, the High Line is an example of defunct infrastructure reclaimed by nature. The rehabilitation of the High Line by Field Operations and Diller & Scolfidio (rendering on the right) uses this artifact to create an alternative experience of the city. It is a reclamation of aging substructure, turning it into an experiential asset and commentary on the organization of the city itself.











The Seventh Climate (Paradise Reconsidered)

I-5 Colonnade Park, Seattle, WA John Roloff The installation Seventh Climate is located under an overpass constructed in Seattle in 1960. It is a consideration of the process of city growth and development with reference to the landscapes that inhabited the space before. In the installation, the climate of 1960 is recreated through lighting and sprinklers that simulate the rain--if, on October 1st, 1960, there was a full moon, the lighting under the overpass will reflect that on October 1st, 2006.











39 Perception and Experience





Site Selection

The noted area was chosen as a prime site for investigation due to three main issues: 1) It was noted as lacking "vitality" in the Downtown Lincoln Master Plan. The same document often refers to this section of downtown as the financial district--which means the site's primary population consists of 9-5 workers, leaving the area empty after six o'clock in the evening. 2) It's nine square blocks offer a sample of conditions found throughout the downtown area,



allowing the developed analysis and design process to be applied in other areas if needed. 3) It is centrally located downtown, which makes it a potential connector for three of the major feeders of downtown life--the government district, consisting of the capitol and the county/city building, the haymarket, and the UNL campus. The site's development can help to make a more cohesive downtown. The MAD magazine fold-in of Lincoln Nebraska--the chosen site, because of the lack of specificity within the grid and its location between two centers of activity, becomes little more than a pass-through place for most residents. With the ubitquity of the grid's spatial conditions, it is easily forgotten.



Site As Sample The site provides a sampling of conditions ubiquitous to downtown Lincoln. Each block's outlined number corresponds to the blocks within the site that feature a similar set of design circumstances.



Condition 1 consists of an extremely enclosed alley defined by only two buildings, which creates a space without varying dimensions. 61

Condition 1 consists of an extremely enclosed alley defined by only two buildings, which creates a space without varying dimensions.



Condition 3 is a block which features buildings that utilize the entire lot and define the streetscape as well as buildings that sit as objects upon the surface.



Condition 5 consists of a combination of buildings that fill their lots, defining the street edge, and large surface parking areas.

6

Condition 6 is a completely filled block

Condition 4 is a relatively solid block

straddle the private and public realms

that has loosely defined alleys that

due to their levels of enclosure.

that has no reference to or trace of the original alley system.



After selecting the site, this series of diagrams documenting the conditions within the nine block area was created. Investigating circumstances within the site such as pedestrian density, traffic density, etc., helped to determing the appropriate intervention for the area.

Site Definition



The current population consists primarily of nine to five workers (orange). The most constant activity occurs closest to 0 street (the aforementioned barrier to campus), which is also the location of the most densely developed blocks.



Activity Location at Times



Which came first, the car, or the unwalkable streetscape? In a chicken/egg relationship, as the block's deteriorate into object buildings and surface parking lots, the number of pedestrians decreases.

Pedestrian Density

While the main concern of this project is that of the pedestrian experience of the grid city, in reality the majority of people experience the city via their windshield. In the case of Lincoln, the oneway street system creates very specific points (at stoplights) where the majority of people stop to look at their surroundings, before speeding on to the next intersection.



Traffic Light Direction



In the same vein as the previous diagram, this shows the density of vehicular traffic along certain routes. While indicating the number of people experiencing the city from a car, it also shows the effects upon the pedestrian's experience through the vehicles' movement and noise levels, among other sensory influences.

Traffic Density

The site has become a shell for the housing of cars--not only have the cars begun to define the perimeter of the blocks, but also the content. The area's urban feel is actually supported by cars, not people. All but one of the blocks hosts some sort of parking garage, making a large percentage of the buildings nothing but facades.



Traffic Circulation


The parking space has become the most ubiquitous unit within the downtown area. In many places, the blocks perimeters are now more defined by the cars that surround them then the streetscapes themselves.

Parking Locations

The compilation of all of the diagrams reveals relationships between the many conditions-for example, the increase in parking correlates with the decrease in pedestrian density as well as site activity. This information led to the selection of Block 7 in the Southwestern corner as due for further investigation.



Composite Diagram



Each vista is taken from the corners where one would be stopped while waiting to cross the street. Correlated with pedestrian density, this diagram shows the most views spaces within the site.

Pedestrian Vistas

Just as the previous diagram shows the most densely viewed areas, the same study shows the spaces within the site that are hidden in the open. The organization of the spaces as well as the human tendency to look straight ahead, creates pockets of privacy within the public realm.



Pedestrian Blind Spots



Site Activity History

The site has always lagged behind the rest of downtown in terms of street activity, however conditions have worsened. The orange indicates the retail locations from the 1940's while the red outlines present shops, bars, restaurants and theatres.

Lincoln is noted for its fine shopping section. Its wide streets, concentrated shopping district and excellent stores of all kinds with their extensive merchandise selections make shopping in Lincoln an easy matter!

-1940 guide to downtown shopping

The parking spot has become a defining unit within the site--lots have been razed to support the need to park cars. It also happens to be the size of a standard single dorm room. At parking garage rates, one spot costs 37 cents a square foot per month--that's 60 dollars rent.







Traces and Existing Programs



Existing programs and site history can be seen through the documentation of traces upon the surfaces of the site. In some cases these can be used to indicate the needed systems within the voids-benches for smokers, for example. Otherwise the more permanent traces, such as the changes in brickwork and signage, become an interpretation of the city's evolution.

One goal of this project is the create a way to engage people within these spaces-to give one the vantage point that allows appreciation of these histories.







Existing Public Spaces



The site currently suffers from a lack of quality public spaces--as shown here. They are haphazard afterthoughts tacked onto the built environment. Who would want to spend an afternoon in a play area that is fenced in like a cage on one side, and buried in the edge of a parking garage on the other? Or eat lunch at a picnic table placed within designated motorcycle parking? Even outside of a house of worship, where people should gather, the bench becomes a lone object randomly placed upon the sidewalk with no sense of enclosure or place.









Perception and Experience

Street Geometries: Documenting a walk around a block

These collections of photographs storyboard the typical urban experience within the city of Lincoln. A simple method--taking a photograph approximately every ten feet--creates a graphic representation of the overall geometries of the street. Not intended to be viewed as individual photographs, but as a collection, the characteristics of each block are revealed. Here are five of the site's nine blocks--through this method each block's character and spatial qualities are articulated.























Line



42





Azy

-

-











































































Method and Design



Enclosed Alley



Open Surface

Enclosed Surface

Analysis was conducted to determine what sort of program will activate the area, and what type of forms will activate the indivual experience of the site. A number of issues became apparent through these investigations. First, there is no population within the site after business hours. The chosen solution? As indicated earlier, student housing is used as infill. Currently the site suffers as 0 Street behaves as a barrier between it and the campus population. By integrating students into the area,

a 24 hour population can start to thrive, which will then act as a generator for further activity. This development will also complete the streetscape in the areas of the site where the extruded grid has been dissolved by the proliferation of surface parking.

Second, the public spaces don't fulfill the needs of the current population. This leads to the creation of an urban "park" system, integrated into the existing voids. This serves the business population, which now suffers from a lack of welldesigned and stimulating public spaces. It also generates an identity for the entire site, drawing in residents, workers, and passerby alike.







Initial Concept - Enclosed Surface



To further investigate the design potential of specific voids, Block 7 was focused on for its location within the overall site (in the sparsely populated Southwestern corner) and its ability to act as a micrososm for the conditions within the other sites. Also, it hosts a relatively obvious existing program in the alley behind the College of Hair Design, where students take their smoke break and have started to intervene to make the site more accommodating.

















Concept Storyboard using sketches and perception/ perspective analysis

deal with the "perception" of of the generic geometries imthe space though skewing the perspective of the voids them-The storyboard above selves. shows an exercise in meshing foreshortening of the vertical a section and a perspective, (hence also questioning some relative givens within architectural process) in the hope

Originally the intent was to of skewing one's understanding plicit within the grid. This was accomplished via the raming of the ground plane and the surfaces. The initial products of this process proved too massive to be effective.



The initial design concept, which dealt with we perception through a literal interpretation rethat dealt with spatial confusion, did not create the desired effects. After review, it became apparent that the perceptions that had to be reviewed in order to drawing people into the sispaces were not so related to visual tricks as be to the perception of the quality of the spaces.

Rather than covering the surfaces of the voids which inspired this study to start with, the project needed to be guided in a direction that would create a platform for appreciating the existing characteristics of the voids.

The study remained in Block 7, however it shifted from the development of the "park" for beauty school students to the student housing within the enclosed surface of the parking lot.

It seemed that the two programs (housing and park) had to be organically related, and as the housing required more in depth and program intensive design, it seemed natural that the park would be an extension of that, rather than vice versa. So this portion focuses on the development of design criteria for the housing, which then can be used within the other conditions of the entire site as well as for the other programs.





This image shows the programmatic conditions for the entire block. The proposed location for the housing development creates an enclosure for the resulting park space. The existing programs are both locations inhabited during the business hours' smoke breaks, by the beauty school students in the area to the north, and by city parking service workers in the other.

Existing Site with Proposed Programs

The placement of the housing started to create questions as to how a built form responds to the void. Rather than continuing the tradition of the extruded building within the grid city, this development had to respond to the existing tradition, and the voids created by it. The north edge of the site is defined by a strong anchoring wall (belonging to the neighboring building), while the East is defined by the streetscape. This creates and an implied angle of disintegration as shown.

Existing Conditional Influences and Barriers



This initial sketch shows the intent of maintaining the history of the site, especially as part of the inspiration for the program (student housing) came from the relation between the size of a parking stall and the size of a dorm room. Here, the lines of the parking are extended to create a sort of townhouse, but here defined by the car's dimensions (as much of the city is now defined). The facade of the building begins to shift creating openings that are intrinsic to the surface rather than being punctured holes as shown on the left. While the shift in the one direction starts to deal with the less controlling streetscape boundary (versus the dominant anchoring wall) it does not yet acknowledge the voids.





By unfolding into the voids, the surfaces start to create the previously mentioned "vantage points" for appreciating the material nature of the alleys by giving people a finished surface that frames the usually ignored features, as well as providing spaces to sit, lean, lay and traverse. In this way the shared surfaces emerge from and blend with the housing structure, rather than creating such a harsh distinction as with the traditional building.



Conceptual Sketches--Engaging Existing Surfaces and Acknowledging the Void



In order to engage the voids surrounding the building site, the idea of the town home is continued, but in relation to the structural (in a figurative sense) conditions of the surrounding lots. The building has a rigid support in its shared wall and in its base on the ground plane. The streetscape surface is a little less rigid, as noted on the previous page.

In response to the alley void, the "town-



homes" begin to fall into the vacant space due to a lack of support. As this happens, the layout of the interior spaces change from strictly vertical extrusions of the base unit to a shifting column, now overlapping with neighboring units.

As this shift in the elevation and vertical organization occurs, so does a shift in the location of the floor plate. It too starts to break in relation to the disintegration



into the void. Hence, as the building progresses toward this "angle of disintegration" the relationships of the standard building conditions--the wall, the floor, the facade-start to change.








The drawing to the left was used to generate the intended forms of the building. Rather than using the typical extruded form, this method peels back the surface of the site, using extended lines from the site as well as the parking spaces themselves to determine the shapes.

Parking Extension Plan



Plan Manipulation to Form

The previous plan was layered into the models to the left, which were cut, scored and folded to make the forms. In these models, the facade is repeated in each set of walls behind it. The third model digresses from the method, but still did not reveal a valid way of generating the interior spaces. That comes next.



First Iteration



Second Iteration







Light Column Model

One method of design that became dominant in this process was the notion that the elevation, the plan, and the section could all be the same drawing. Here is a study model showing the openings in the elevation becoming light columns when used in plan.





Unit 5 -- Burrowing Model

Because of the falling/disintegrating nature of the "townhome" units, the fifth unit becomes buried beneath the others as its typical vertical space has been occupied by the others. This study model show the way which the ground plane bulges and shifts to create the fifth unit's interior spaces.

al Design Documen that a repeated facade was not in con-The last iteration of the housing project betext with the system to which the building is responding. The typical building's construction came an investigation into the relationships between the different elements of the building. relies upon a repeated parallel ground plane, with a perpendicular connection to the facade. In the previous models, the folding always cre-This realization led to the form generated in ated series of walls that repeated the general nature of the facade. However, through a critthe final model, shown later. ical look at, once again, the typical extruded

ical look at, once again, the typical extruded Also, the project began to deal with how building of the grid city, it became apparent you traverse untraditional living spaces, such

as angled floors and vast spaces, or socially how a space is programmed and shared. The exterior excavation within the shared space and the partially excavated fifth unit draw attention to the city's relationship to its man made surface and the natural strata below.





Street Elevation



Elevation Panels





In the final iteration, rather than duplicating the facade, the floor planes are instead building elements to have a causal relationship extruded from the facade. Where the facade maintains a relatively traditional orientation (near the anchoringwall and the ground plane), the floors are extruded at a perpendicular angle.

the floor planes react as well, causing all the based on the facade (which is the elevation, which is the plan, which is potentially the section, etc.).

The floor panels, and at the disintegrated When the facade begins to angle into the void, end the facade panels as well, turn into the



Final Generative Model

landscape of the shared exterior space. Hence, the floors become walls, become ceilings, become the ground. In the model, the exposed chipboard represents the excavated portions of the ground plane. Here, the concrete slab remains and is articulated at the edge of the excavations so that users can start to read the city in terms

of its existence upon a natural landscape.

The building is intended to reveal itself with time--the traditional relationships that are questioned through the process of the design slowly begin to influence the inhabitants, much like the overall intervention is intended to change the way a pedestrian views the grid.



Site Plan



East Street Elevation





Front Elevation with Floor Plates



Unit 1 Elevation of Floor Plates







Unit 4



Unit 3



Unit 5

Unit 1 Development



Section



Plans



Axonometric

Unit 3 Development



Section



Plans



Axonometric





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Miscellaneous





Original Project Schedule 