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# **Technocarpet Supporting a Culture of Congestion**

William Andrew Weigand

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# Technocarpet Supporting a Culture of Congestion

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# Technocarpet Supporting a Culture of Congestion

A Capstone Project Submitted in Partial Fulfillment of the Requirements of the Renée Crown University Honors Program at Syracuse University

> © William Andrew Weigand Candidate for B. Arch. Degree and Renée Crown University Honors May 2012

Honors Capstone Project in Architecture	è	April 25, 2012
Capstone Project Advisor		
Capstone Project Reader		
Honors Director		

**The Technocarpet** address the project of the city. In light of pressing issues of resource scarcity, climate disruption, and population growth we must re-think our settlement patterns. Density, or living in close proximity to other people, is essential to reduce our resource use while providing a desirable lifestyle. The project will support super-dense urban environments by proposing a new type of park that integrates infrastructure into civic space, new frontiers within the city around which large populations can grow sustainably in the broadest sense.

Thank you to all the people who helped me this year; especially my friends and advisors. Also thank you to the Crown Award and Honors Program for supporting the field research contained in this book.

#### Introduction

The starting point for the project is the notion that proximity is essential element of urban life, bringing together support structures for both our civil needs (water, energy, waste, sanitation) as well as our civic desires (arts, recreation, culture, food). Future public spaces are an opportunity to combine our basic needs with cultural production. To address urbanism, I carefully reread <u>Delirious New York</u>, Rem Koolhaas's seminal 1978 treatise on Manhattan's unique form of urbanism. This led me to examine the "Carpet," or Central Park, as an important element in the city, as intrinsic to its development as the famous grid, elevator, or structural steel.

Examining parks in this infrastructural manner, I took time to study the emerging discourse of landscape urbanism and focused my thesis prep research on a series of projects which address the intersection of infrastructure and public space. With funding from a Crown Award, I conducted hands-on research, traveling to parks in Seattle, Portland, Madrid, and Barcelona which acted to remedy issues that resulted from the lack of integration of civil infrastructure in the city, or were planned in conjunction with new infrastructural projects. These, among other precedents, formed a body of research on an overlooked area of landscape urbanism: that of the city core.

To test this contention and apply my research, I selected a site in Sunnyside, Queens, New York, an existing rail yard, a void in one of America's largest and densest cities. The area is primed for future growth, and lacks park space for its residents. The park includes four major systems aimed at supporting a burgeoning population: electricity storage, trash processing and recycling, waste water treatment, and an inter-modal station, as well as recreation and cultural programs. Designed for a phased implementation, the park would develop through time, and is meant to be flexible enough to accommodate both a growing population with its infrastructural components as well as changing cultural desires.

As a means to support the growth of cities, the strategy employed by the Technocarpet can be applied in multiple cities around the world: rail yards are a ubiquitous part of most urban environments, and their unused airspace could be leveraged to create new centers for growth within cities.

#### How to Approach This Book

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The book is broken into six sections; Argument, Learning from Parks, Traveling to Parks, Application, Support, and Reference. And can be read with several goals in mind:

- 1 To understand the full extents of my thesis research and project, read all sections.
- 2 As a presentation for my specific project, read the Argument and Application sections alone.
- 3 To learn about Landscape Urbanism and infrastructural public space, read Learning from Parks, Travelling to Parks, and the reference section.

**Argument** explains my position on density, explains the foundation of the "Carpet," and formed an agenda for the research and design work to follow.

**Learning from Parks** examines a progression of notions about landscape, and sets a position relative to the discourse of Landscape Urbanism.

**Travelling to Parks** is a vehicle to share documentation of the field research conducted in Seattle, Portland, Vancouver, Madrid, Barcelona, and Toledo.

Application explains the specific scenario that I have chosen to apply the idea of the Technocarpet.

Support contains a series of essays containing my theoretical viewpoints on several issues relevant to the thesis.

Reference holds a catalog of projects which form a context for the project as well as an annotated bibliography.

# Contents

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A public space characterized by a combination of support infrastructure and cultural amenities necessary to sustain superdense urban populations and lifestyle.

西班 圣 经 11 12 2 2 2 2

What if we simply declare that there is no crisis - redefine our relationship with the city not as its makers but as its mere subjects, as its supporters? Rem Koolhaas, "Whatever Happened to Urbanism", <u>SMLXL</u>

# Argument

How can we support super dense urban life?



# Future

This exists within the context of a preemptive assertion of a near future situation. It projects global conditions which may result from business-as-usual behavior and policy. Without resorting to a distopian outlook, it is a future in which, faced with bio-climatic SNAFU\*, humanity overcomes its political inefficacies to make necessary changes occur to secure survival...



#### Scarcity

The continued rapid growth of the global economies and population will exacerbate our tenuous situation of resource scarcity. Space, like water, air, food, and energy, is a commodity: in a situation of rarefied resources, we will be impelled to push space to its limits to maintain our lifestyle. We alter the earth in a race of extraction, melding our environment to suit our desires: a loosing battle with the limits to growth.



# Obituary

Presently, we go to enormous lengths to access resources necessary to maintain our lifestyle. To change this we need to reconsider our settlement patterns, resource use, and way of life. In a near future, we will need to to reclaim our suburban spaces, not to live in, but for their resources: for agriculture, energy production, and renewable material harvest, as climate disruption and a burgeoning population strain our ability to support ourselves.

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# Density

In reaction to conditions of scarcity, people move to cities. Their attraction lies in efficiency: cities enable reduced resource consumption and in the scarce reality of our near future will the only economically viable way of life - to say nothing of their lifestyle benefits and cultural amenities.



# Proximity

To support the influx of new residents to cities, we need to rethink our infrastructure. It must be broadened from solely civil (transportation, waste water, streets, energy...) to include civic (parks, recreation, schools, institutions, services, contemplation...); dense cities require a broader scope of infrastructure for the city to function. Currently, the two are rarely planned or designed to be in the same place. We must make designs on this additional infrastructure; to bring together functions previously isolated to staunch our entropic behaviors.



# **Delirious**

So how to make density culturally productive? In <u>Delirious New York</u>, Koolhaas identifies four architectural mutations which enabled Manhattan's "culture of congestion" to develop: the grid, tower, globe, and carpet. These tools empower culture to endlessly manipulate its environment to suit its desires – and in doing so, enabled the manufacturing of a previously unimaginable urban environment.



# Mutant

The mutants had specific attributes which unconsciously predicted the culture that followed: the grid speculated a vertical future for the city, and produced a coherent system for accommodating radical difference. The carpet was "synthetic arcadia," produced through the manipulation of nature . The tower, bounded by the block, multiplied the ground to reproduce the world.

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Commissioner's Grid Plan - Greenwich Village Society for Historic Preservation Downtown Athletic Club and Globe Tower - <u>Delirious New York</u> Central Park Map - Arthur Ross Foundation



#### Compression

While extolled and tested as the means to catalyze urban life, the grid and tower wouldn't have reached their mythic urban status without the carpet. The Carpet sealed the fate of the city towards vertical growth; the Carpet created an artificial frontier around which the city's growth would cluster. Without the carpet, the grid merely primed the city to expand; first subjecting the island to its relentless measure, before endlessly growing to encapsulate the globe.



# Carpet

The carpet, however had the advantage of avante-garde status: predating the urbanity which followed it, the carpet disrupted the logics of the grid - creating a center for growth, providing for the future masses whom would flock to its vision of "synthetic arcadia." (Koolhaas, Delirious)



# **Central Park**

A provocation, its lack of mass now guarantees monumentality in its context. The park has the capacity through sheer area to mediate between disparate uses, separating them not through plates, but through topography, size, and vegetation. The park is more, while doing less.



# Technocarpet

While it appears to do less, the park has the capacity to hold infrastructure. A Technocarpet supports our civil needs and fosters social desires. Central park was the original Technocarpet, it conceals water supply piping, subways, and traverses beneath a thin layer of nature.



# **Vulnerable**

As cities grow, the supporting infrastructure must be enlarged as well, affecting land use. Will our lack of planning see us to a tipping point where the destruction of public space occurs to "save" the city? The carpet is vulnerable, for it has no "essential" function. Will there be a time when developers', farmers,' or even ConEdison bulldozers violate the carpet in order to fund the city and provide housing for residents?



# **Publics**

Furthermore, the Technocarpet must fulfill multiple needs and desires in close proximity. The public sphere continues to expand, from mere discourse and the market, to both nature and culture as oppositional forms. The "opposites" have merged under the auspices of leisure. The disruption of "situation normal" introduces another element into the public sphere: the unseen infrastructures that support the others, no longer distanced by cold-war urbanism.

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#### **Communities**

The dense city is not nostalgic; scales of association have been scrambled by communications and fragmenting interests. Obscure yet popular fetishes demand space between the disparate dwellings of constituents. Digital culture creates links, but actions and activities are still tied to the ground. Absconding from a generic concept of public, public space must become host to a striated, changing set of publics.

"Human beings have a history because they transform nature. It is indeed the capacity which defines them as human."

Maurice Godelier, The Mental and the Material

# **Learning from Parks**

A progression of notions about landscape, constructing my a position relative to the discourse of Landscape Urbanism and concepts of landscape in history.



#### Composition

Landscape design tradition is based in painterly composition. The legacy of park and garden design has its roots in using pictorial techniques to create visually irregular and varied landscapes. "Modern" landscape designers, following architecture, shifted their language towards "functionalist" forms and cubist composition, increasing the palate of forms; yet like architectural modernity, had deep roots in classic form.



# Greensward

Olmstead worked to produce the dynamic sublime by harnessing the qualities of the wild. Masquerading as preservation, the plan leveraged artificial nature to produce effects.







# Production

Contemporary landscape theory seeks to replace pictorial composition of space with systems for its *production*. Industrial technologies of specialization, modularity, replicability, and time management afford flexibility and rationalization that painterly irregularity cannot.



#### Emergent

Using the wild to produce the sublime was superseded by a more "mathematical" approach. Systemic complexity provided the means to overwhelm both user and critic. Ostensibly, the use of systems, layers, and 'emergence' will produce ecologically resilient ends. Yet, unable to escape their picturesque lineage, landscape practice still employs these systems towards the production of visual effects.



# Simultaneous

Within the discourse of management-as-design, different approaches towards time were developed: designs which coordinate a multiplicity of programs on a daily basis to intensify use...



#### **Successive**

...and those that manage a succession of uses or ecologies over time. Both create designs which enable a continuous process of change to be integrated; succession through accumulation over time, rather than through superimposition and change.



# **Superimposition**

Which leads towards two spatial concepts: that of superimposition of systems to engender interaction...



# Accumulation

or their gradual accumulation as hedge against the outbreak of eventual urbanity.


#### Horizontal

Buildings became a model for parks, to create "horizontal congestion." The possibility of systemic integration of unforeseen program and maximum interface between them. Yet the bands of pure program cost architecture dearly, inciting a coup in which *landscape* would later lay claim to *urbanism*.



#### **Bands**

But when applied to a new city, "Imagining Nothingness" was difficult: the bands, "Conceptual Nevadas," freed from architectural overture to catalyze the city, were still littered with architectonic confetti, necessary to fulfil public needs. The voids were to be occupied, not by nothingness, but by architectural objects.



#### Jeffersonian

Where figuration failed, the use of vernacular spatial logics were attempted: parks were modeled on American settlement patterns. A series of designs, based on existing models of spatial production...



#### Atlanta

...went so far as to mimic the practices that resulted in sub-urbanization. Re-branding its effects "Low density metropolitan life," the privatization and dispersal of the suburban landscape is an explicit return to the irregular variety of picturesque composition; manifest in the diagram - brand of the park.



#### Segregation

In its segregation of circulation and use, Tree City enables simultaneity without interaction. Its genius is its downfall: the segregation of activities as a means to inclusion. The park maintains the contemporary process of the privatization of the public realm.



#### Low Density Metropolitan Life

In theory, the design created a flexible, yet legible identity for the park - though the variety and irregularity produced through the arrangement of a regular element. In practice the result is a diagrammatic mirror of its context: suburban Toronto.



#### Inclusion

The inclusion of disparate interests, activities, and agendas is only part of the basis for truly public space. Interaction, collision, tension between competing demands are what make this inclusion productive for the public realm - the manifestation of democracy in public space. The park can use this intensity to produce the sublime effects – without resorting to visual effects of the "wild."



#### Urban

The city provides the ultimate framework for a park: independent uses and programs are contained yet related; held in a state of conflict. Proximity and coordinated movement allow for the urbanization of the carpet; they creates the potential for social interaction through the coordination of simultaneous activities.





### Nothingness

La Villette and Expo '87 eliminated the third dimension almost completely; proposing a purely programmatic occupation. These conceptual "Nevadas," devoid of permanence ignored a seminal lesson of Manhattanism: "the split between appearance and performance". The effervescence of "Nothingness" is what makes it appearance attractive, as a clean slate for activity, a frontier for desire.



#### Intensity

However, its performance is another matter. Essential infrastructure must underlie programmatic transience. The carpets of tomorrow must create "nothingness" while subsuming the world. Spatial definition is only part of the equation to produce a sublime frontier of escape: the third dimension implants the carpet with capabilities to host programs otherwise impossible for a park.

"...It proclaims the superiority of the artificial to the real, which remains, whether admitted or not, the true credo of western civilization, the source of its universal attraction." Rem Koolhaas, <u>SMLXL</u>

## **Traveling to Parks**

Technocarpet applied to Sunnyside Yards, Queens NY







### SEATTLE

1 Olympic Sculpture Park 2 Freeway Park

- **3** Gas Works Park 62



### **Olympic Sculpture Park**

Weiss Manfredi, 2000

OSP combined three parcels of land, bridging over a train line and highway, creating a path which accommodates sculpture and pedestrian transit. It also hosts multiple biomes for wildlife, as well as remediates the contaminated soil existing on the site from a past industrial use.



















### **Freeway Park**

#### Halprin Associates, 1967

The park was designed to allow pedestrian passage through downtown, bridging over Interstate 5. The park wraps over and around the highway, covers parking garages, and spans between hilltops to create a pedestrian network in the downtown, isolated acoustically and naturally from the urban surrounds.















### **Gas Works Park**

Richard Haag, 1972

A simple design with a broad view of the harbor, the park remediates and re-uses a natural gas farm as a public space, keeping the industrial artifacts as garden "follies."





# VANCOUVER

1 Convention Center662 Coal Harbor Park70

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### **Convention Center**

LMN Architects, 2009

The convention center has a large planted roof, public square, and pedestrian route along the waterfront, linking it to a larger waterfront park.










# **Coal Harbour Community Center**

Henriques Partners, 2000

The community center is built into a sloped site, which is leveraged to allow a park to be created on the roof of the building, concealing parking, the community center, and gymnasium.





# PORTLAND

1 Mt. Tabor Park 74

- 2 Waterfront Parks 76
  - 3 Keller Fountain 78
- 4 Lovejoy Fountain 80
- 5 Tanner Springs Park 84



# Mt. Tabor Park

John Charles Olmstead, 1903

One of Portland's largest parks, it hosts several reservoirs as well as recreational facilities on the slope of a dormant cinder cone volcano, bringing recreation and infrastructure together.







## **Eastbank Esplanade**

Mayer/Reed

The multiple bridges and steep eastern banks of the Willamette River force this two esplanade to make extreme section shifts and adds a long floating structure to connect various points of the path.





## **Ira Keller Fountain**

Halprin Associates, 1972

This depressed plaza and fountain catches and uses water to activate a public space, and is linked to a larger set of plazas and pedestrian streets in the south side of downtown Portland.





## **Lovejoy Fountain**

Halprin Associates, 1966

Part of a series of public spaces, the park hosts a fountain for cooling off in the summer, and covered structure for rainy days. The plaza is almost entirely stepped, creating spaces for performance and seating.









# **Tanner Springs Park**

Homer Williams and Partners, 2002

A constructed wetland manages water run off, a major issue for rainy Portland, and re-purposes train rails to create a screening device





# MADRID

- 1 Madrid Rio 88
- 2 Parque de la Gavia 94
- 3 Parc del Pratolongo Parque Sur 96
- 4 Eco Boulevard de Vallecas Via 98
  - 5 Parc del Ribera del Manzares 100
    - 6 Parc del 12 de Octubre 104
    - 7 Parque del Valbernardo 106
      - 8 Parc del Juan Carlos I 108
        - Toledo Escalators 112



# **Madrid Rio**

#### West 8, 2010

The long linear park covers the city's M-30 highway, and more importantly links and adds to existing parks, while returning the Rio Manzares to the city's residents for recreation and public spaces.















# Parque de la Gavia

Toyo Ito, Ongoing

This large park sculpts hills to capture and channel rainwater, part of a larger strategy for municipal water treatment and re-use.







## Parc del Pratolongo - Parque Sur

#### Jose Luis Esteban Penelas

Drainage channels and multiple levels of circulation crisscross this park; which holds diverse program such as a botanical garden, boating pond, and waterfront amphitheaters.







## Eco Boulevard de Vallecas Via

#### Ecosistema Urbano, 2000

A series of outdoor shelters shade and cool plazas along a boulevard in a new quarter outside the center city. The spaces are geared to create pedestrian activity and public life in the street, as well as be an example of sustainable practices with their solar lighting, hanging gardens, and natural ventilation.







## Parc del Ribera de Manzares

Ricardo Boffo, 2003

Containing a waste treatment facility, the park uses artificial hills to both conceal infrastructure as well as create the opportunities for prospect over the city.















## Parc del 12 de Octubre

This park uses the tectonics of infrastructure to create a maze-like series of open spaces as part of a hospital and residential development.




## Parque del Valbernardo

This park links water retention ponds, artificial hills, and a large community garden with a series of open piazzas and play areas.





## Parc del Juan Carlos I

This large park is organized around a circular loop of water, and links diverse program, ranging from a winter garden to solar energy demonstration facilities. The park was developed as part of a larger convention center project, in an outlying area of the city.









## **Toledo Escalators**

Jose Antonio Martinez, 2001

This series of escalators enables access to the historic center of Toledo. It conceals the access system by embedding the stairways and escalator in the hillside.





## BARCELONA

- 1 Parc en Val de Hebron 116
- 2 Parc de la Trinitat Nova 118
  - Parc del Tramvia 122
- Marina Parc, Viladecans
  - 3 Parc del Besos 128
- 4 Parc del Auditoris Parc Lineal de Maresme
- 5 Parc de la Pau Parc Fluvial del Besos Parc Littoral
  - 6 Les Cortes Catalans (Gran Via) 136
    - 7 Parc del Joan Miro 138



## Parc en Val de Hebron

Eduardo Bru, 1992

This park, mainly devoted to recreational facilities, links a series of parcels with unified furniture and lighting, as well as creates several overlook structures from which to view the various activities.





## Parc de la Trinitat Nova

Battle I Roig, 2010

Ensconced in a highway interchange, integrating a subway stop, the "node" offers a mix of programs and spaces within a small footprint, through the manipulation of its section and the adjacency between different uses.











## Parc del Tramvia

Battle i Roig, 2002

This linear park caps a major highway, distributing different programs along its length, differentiating the spaces through the use of surface textures and different planting and urban furniture.









## Marina Park

#### AAAID / Battle i Roig 2008

Artificial berms are used to retain water, reducing run-off to a channelized creek flowing towards a coastal estuary. These berms are populated with activities and linked by paths which extend into the context, bridging above surface streets, creating a network of pedestrian access to a new portion of this bedroom community.

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## Parc del Besos

Viaplana & Piñón, Arquitectes, 1986 A series of linear drains creates increments of space which are then distributed to recreational activities.





## Parc del Auditoris - Parc Lineal de Maresme

#### Foreign Office Architects, 2004

This park is adjacent to the city's "Solar Forum," an outdoor exhibition space. The park itsef creates artificial dunes that host amphitheaters for public performance as well as a variety of swimming and wading facilities in a former port berth.









## Parc de la Pau - Parc Fluvial del Besos - Parc Littoral

Albalos Herreros Architects, 2004

The park is situated at the end of one of the city's major diagonal avenues, and brings together the coast with a waste treatment facility and incinerator.







## Les Cortes Catalans (Gran Via)

Arriola & Fiol Arquitectes, 2002-6

This series of public spaces runs alongside the Gran Via, a depressed arterial road. They include access points for a tram, as well as serve as an acoustic buffer for the residential areas surrounding the road.





## Parc del Joan Miro

Beth Galí, 1979

This park integrates parking and water retention gardens, as well has containing a large covered outdoor sports facility within a larger "forest" of trees.



Instead of appearing solid and resolute, [architecture] would look like a movie set for the staging of multiple realities, and demonstrate the conflict and paradox to be the hard core of architecture rather than the contrivance of order and cohesion we customarily expect from it. Keith Mitnick, <u>Artificial Light</u>

# Application

Technocarpet applied to Sunnyside Yards, Queens NY


#### Density

When compared to other nations such as, India, Europe, and Japan, the US population appears to be relatively spread out: and to an extent this is true. However the reason for this is also a result of large areas of preserved (30%) and agricultural or pasture lands (40%). This concentrated the population to cities and suburbs.



Megalopoli

Yet when one looks closer, the United States can be broken into several Megalopoli. If each was isolated as its own "nation," they have extreme densities in line with regions in India or the Netherlands. New York City is one of the top cities in terms of density, and with a 4% growth rate and goal to add 1 million residents by 2030 is at a crucial juncture with regards to population.



## Site

I looked to the largest, densest cities in the US as test cases - focusing on those with lower amounts of park space per capita, and with the greatest potential for growth. One of these areas, primed for growth, is Sunnyside Queens, New York. Queens' population is expected to increase 18% by 2030, and the development activity underway in the Long Island City (LIC) area, just to the north of Sunnyside will soon be home to an influx of new residents.





## **Public Space**

The area also lacks public space. Queens, while not the densest area in the borough, in New York City, has the least amount public space per capita. This situation would only worsen with additional residential areas promoted in the current rezoning, and future changes to land use ordinances. It is an ideal test for the design of a new carpet; as provocateur of a wave of intense development at its edge.





## Growth

Long Island City is on of the few fully mixed-use neighborhoods in the city; bringing together residential, commercial, and office space with manufacturing. It is well situated for "reasonably priced" office space and zoning incentives are in place that allow the area to be developed to a higher level of density than currently exists. The easy transportation access and availability of "underbuilt" sites position it to become a third (or fourth) central business district for New York City.









#### Yards

Sunnyside Yards is among the last open-air train yards in New York City. Faced with increasing demands for space, several other rail yards have been developed, starting with the area directly to the north of Grand Central Terminal and including Hudson and Atlantic Yards. The site is a tangle of infrastructure; depressed 15-30' from the surrounding city fabric, the ground has been manipulated over time to serve the needs of



local and regional transportation. A current project for extending LIRR access into Grand Central Terminal has generated recent work and changes to the site, as it now is host to three additional tunnels with access to mid-town. Directly to the north and south of the site are numerous subway lines (EMR / 7 / NQ). The irony of this accessibility is the site itself, cuts away a huge swath of area from the surrounding fabric.



## Constituencies

The area around the yards is rapidly changing; people are moving to the new residential areas provided as a result of Long Island City development, accompanied by daily use by new commercial activity in the new CBD. However, the majority of the area is currently zoned manufacturing; which, if following in the footsteps of many other industrial areas of the city, will eventually lead to a new mix of redevelopment.



#### Access

The area around the yards is rapidly changing; people are moving to the new residential areas provided as a result of Long Island City development, accompanied by daily use by new commercial activity in the new CBD. However, the majority of the area is currently zoned manufacturing; which, if following in the footsteps of many other industrial areas of the city, will eventually lead to a new mix of redevelopment.



## Land Use

The changing constituency and demand for public space is a direct function of past and present land use. Historically, the surrounding land use was primarily manufacturing, and is one of the few remaining industrial areas in New York City. This is rapidly changing as Long Island City redevelops under the provisions of a special overlay district. This greatly accelerated development in the area, a mix of residential development,



conversions, and office space in a new central business district. The site itself has been seen as a development opportunity since the 1930s (Garvin), most recently proposed in the schemes presented for the potential NYC 2012 bid for the Olympics. At roughly 8 million square feet, the site is one of the largest undeveloped parcels in the city.



## Electricity

New York City is an electricity load pocket. Due to limitations of the electric grid, 80% of the energy used in the city must be generated within the city. The city uses 11,000 MW annually, a figure which continues to grow. A wind farm is proposed to go online in 2030 off the coast of Long Island which could help contribute to meeting this demand. A flywheel energy storage system will smooth electricity demand and conserve electricity, reducing overall generation needs and emissions from "peaker" plants.



LIC is being redeveloped as a third Central Business District for the city: bringing with it commercial and residential growth. The area shown in black was recently rezoned to encourage development of mixed use and commercial property in addition to existing office buildings and a growing residential population at Hunter's Point. This growth will require increased transportation access to existing train and subway lines.



## Trash

Since the closure of Fresh Kills, New York has been forced to export its trash, 13,000 tons per day (TPD). A tremendous economic (\$1M/day) and ecological expense. The transfer facilities for the existing export system occur in various industrial zones throughout the city - however for Brooklyn and Queens, they are concentrated around the Newtown Creek, several blocks to the South of Sunnyside Yards. Shifting from transfer to processing will save money, reduce emissions, and create new resources for the city.



#### Wastewater

The existing Bowery Bay treatment plant has reached its limit due to the inability to increase the size of sewer lines, resulting in CSO releases into the East River. Long Island City development activity will exacerbate this issue. By 2030, the population of Queens as a whole is predicted to rise by over 18%. Since each new resident contributes 128.6 gallons to the wastewater stream, additional treatment capacity is required, with a dry weather capacity of 50 MGPD; a small facility proximate to the source of the wastewater it treats.





#### **FESS**

50% of New York City's electricity is generated in Queens. Flywheel energy storage systems (FESS) smooth demand in the electrical grid, by storing excess electricity and feeding it back in times of need. With its location in proximity to the subways and trains, which can, like hybrid cars, regenerate electricity when they brake, the FESS can store electricity otherwise lost in braking, and feed it back to the trains when they accelerate out of the station.



## MRF

A materials reclamation facility sorts trash and recyclables into usable commodities. Starting with the color-sorted trash and recycling deposited by trucks, the largely automated system sorts the waste into its more valuable constituent parts.





#### Wastewater

Population growth and wastewater are intrinsically correlated; each additional resident results in about 130 gallons of wastewater. This wastewater is treated in a series of settling, digestion, and treatment tanks before being released into the Newtown creek. Stacking the various stages of the process allows for a smaller footprint and gravity-fed flows of water after an initial pumping to the plant's inlet.











Study Models









Investigating Configurations of the "Strip"



## Design

A series of study models explored different site strategies. Based on the findings of these iterative physical models, I developed the project in Rhinoceros, a computer modeling program. Each review led to changes and new ideas, which were incorporated into the final version of the drawings.





The flywheel energy storage system is installed as a green strip over the high-speed rail lines running through the yard, mitigating the acoustic interference from the trains, and connecting both ends of the yards as a linear park.







Long Island City Central Station is open; park goers can access the park directly via the 7 subway line or Long Island Rail Road, drawing crowds from all across the city.



Oueen's population has surpassed 6 million people. The wastewater treatment facility is fully operational and has begun mitigating the CSO problem caused by the existing inadequate system. Summer concerts are held above it, on the sloping roof of the materials reclamation facility.

ulmittle in a


San Antonio, TX



1.32 M - 16%

Miami, FL



6.1 M - 12%

### Oslo, Norway



1.3 M - 220

Copenhagen, Denmark



.63M - 18%

### Kinshasa, D.R. Congo



16.7 M - 113%

## Beijing, China



26.2 M - 76%

## **Applications**

Train yards exist in almost every major city - the Technocarpet could be rolled out over them, creating a public space over what commonly serves to divide neighborhoods and discourage growth. The cities above have some of the fasted projected growth rates through 2030 (McKinsey), and have train yards in close proximity to the main city center.

## Jakarta, Indonesia



12.3 M - 35%

## Cairo, Egypt



15.5 M - 31%

## Hangzhou, China



10.0 101 - 05%

## Shanghai, China



27.4 M- 56%

## Istanbul, Turkey



12.1 M - 20%

## Sao Paolo, Brasil



21.8 M - 13%

The lesson of the twentieth century has been that no amount of architecture (whether in the guise of buildings or land forms can compete with the scale or dynamism of the metropolis.

R. E. Somol, "Systems Go Urbanism" CASE: Downsview Park Toronto

# Support

A series of essays exploring the issues which provoked the project, situating it in a broader discourse on landscape urbanism and architectural projects on the city.

## PULLING OUT THE RUG: MANHATTAN'S CARPET

Many cities were laid out using grids: but none has achieved the same intensity of both lifestyle and development; the population density or skyline associated with New York. What spurred the growth, the culture? Was it the grid? Or is the thing that sets Manhattan apart something else entirely...

In <u>Delirious New York</u>, Rem Koolhaas sets forth a gretroactive manifesto h which explains the architectural basis for the aggressive growth and self-renewal of Manhattan, where the city becomes a theater of progress. He identifies four mutations which underlie the gcultural of congestion h: The grid, tower, sphere, and carpet. The grid – the emblem of the city; is heralded by Koolhaas as the device which enables order to be reassembled out of the chaotic mix of individual buildings, activities, and inhabitants. Deceptively simple, the 1807 Commissioner's Plan was a speculation, a projection into a future when the island would be remade to suit the desires of its inhabitants. The grid ruled the city, but it was the supporting cast that made the a grid into the Manhattan that we know today.

The second device was the tower, a building with the capability to multiply the ground plane. The third anomaly was the globe, an exceptional fossil pulled from the ashes of Coney Island. Its spherical form was a model for creating the maximum interior volume with the minimal envelope. Together, they embodied a new paradigm for architecture: the creation of new worlds, no longer constrained by the symbolic posture applied to their facades. The tower is implicated as the end to the speculation game set forth in the grid.

Yet, for all the speculation set forth in the manifesto, the final mutant was ignored: in Vriesendorp's accompanying Flagrant Délit, it was rendered as mere decoration:



GRID Commissioner's Plan 1807



TOWER Downtown Athletic Club



GLOBE Coney Island



CARPET Central Park

beneath the bed, pinned down by the fabulous context which surrounded it. Central Park, labeled by Koolhaas as a hsynthetic Arcadian Carpet, h is the grid's largest deviation. Abandoning the rules set forth by the commissioners, the Greensward was projected over undeveloped blocks, preserving forever their latent potential.

The grid made Manhattan, but the Carpet was the avant garde for the architecture that now surrounds it. Its absent presence demanded growth – creating a second, internal frontier for the island. Furthermore, it was the first test of many of the the technologies of congestion: The initial design of the park included not only the reshaping of the land to gpreserve h the gnatural h state of the land, but also to improve movement, drainage, and even supply water to the city. Underlying a thin coating of nature lies infrastructure: pipes, conduits, subways, and underpasses devoted to the movement of material, energy, and people. Rooted into this veneer, imported trees were planted, selected not on their natural habitat but rather on their suitability and resilience to urban air. Boulders, bridges, drains, and ravines – all simulacrum aimed at creating a sublime wilderness. The park was made to generate effects, replete with sheep and resident shepard to instill yet another intangible entity into the park experience.

Other cities have large parks – even at larger scales, but none with its central location. Its advantage lies in projection – a public amenity amidst the ruthless development of the island. In designing the park, Olmstead ascribed to the same values as the commissioners fifty years before: he was not a naturalist, his nature is brutal, an overwhelming version of the original. He was not an architect, practicing complete architectural abstinence in the Greensward Plan, eschewing the follies scattered throughout the picturesque tradition he was inspired by. There was no room for signature forms or flourishes: like the grid, his vision was totalizing, ascribing specific behavior, its implementation carried out with militaristic precision.

Aside from its aspirations to be a proper simulacrum of nature, it functioned as a social theater for the carriage-driving classes. A carriage ride became a display of status festival similar to the those staged by the lobbies of opera houses, later surpassed by the technological wonders of Radio city. Central park created a fantastic wilderness predating those of Coney Island by fifteen years. The key thing that set it apart however were that its innovations were topographic rather than mechanical: a spatial expression otherwise impossible within a single block of the grid. It was the means to achieve what the great incubators of the skyscraper could not: space in which to escape from an oversaturated lifestyle. It achieved its ends with such success that escapees from the city failed to realize the work of artifice manifest around them. It is the ultimate manifestation of the technology of the fantastic, so unbelievably perfect that it is assumed to be real. Manipulation aside, the park's sheer lack of mass guaranteed monumentality.

The grid was an operation in speculation, in its conception creating the possibility that the island would eventually fill with architecture. The carpet however did not speculate, it assumed: its size trumped the initial area allotted for it in the commissioner's report, to provide for the masses that would flock to it. The grid has the endless capacity to organize change, homogenizing even the most outlandish architectural ego, yet the carpet overwhelms the rules of the Grid. Its effects lie in its lack of control, on the reintroduction of the wild into the city. Yet, like any other block, the park is tied to the grid, its traverses form streets and the loop two avenues.

The carpet is the island's moment of relief from the grid; yet its irregularity merely reinforces it. Central Park turned the grid into an icon by absconding from its principals and inciting the urbanity which it preceded. The carpet, locked in the center of the grid, is the foundation of which underlies the Manhattan we know today.







## **IDEAL:** CITIES

Before the industrial city, the problem of accessible nature was assuaged by the relatively small scale and density of cities. A side effect of urbanization, the project of naturalizing the city had many motives, one being the desire to reconnect with imagined roots in nature. It manifests in notions of survivalism, mimesis, and the preservation of 'natural' areas, the cultural tactics used to construct this new nature. In newly urbanized environments, private parks and gardens provided grounds for experimentation with novel forms and organizations – aesthetic operations with vegetables. These enclaves were separate from the larger city - yet were modeled on its logics of production and notions of architectural ordering.

When the city itself was posited as a 'problem' due to the side effects of industrialization, architects forgot the limits to their agency in the urban realm and began to design ideal cities, each with a distinctive 'natural' component: a means of escape from the ills of the industrial city. Nature was never integrated – they feared that it would be contaminated by architecture, and reciprocally contaminate its host. Originally extant in the form of (private) parks and gardens, these enclaves (often at the edge of a city) have entrenched the notion that nature is something other, the antithesis of culture.

As a series failures within the broader love story, utopias hold a special position, untarnished by the demands of reality. This history of ideal cities project the formal denouement of (designing) the ideal lifestyle. These 'spatial utopias' proposals for urban life followed the neat logic of a dialectic relationship between nature and culture (Harvey). This divide, combined with the modern desire for healthy urban environments translated to acts of self-loathing. These utopias were only possible by weakening architecture and the city: for the sake of nature; for the sake of efficiency; for the sake of health. Many of



PRIMATIVE Laugier



GARDEN Ebenezer Howard



RADIANT Le Corbusier



BROADACRE Wright

these 'ideals' remained on paper, the architectural ambitions within relegated to the status of semi-achieved dreams. At their worst, their reproduction of existing power structures became models for oppression, apologias for sub-urbia or were co-opted and became the tools of new capital development.

The first counterexample to the industrial city came in Ebeneezer Howard's Garden Cities of To-morrow in 1902. Howard laid out a city of seven units: six small 'towns' of 30,000 surrounding a central city of 50,000; each separated from the rest by a greenbelt, and connected by railroad lines. Architecture is confined to islands within a sea of nature; regulated to ensure that its cities will never develop culture; broken into small towns, the inhabitants have all the nature they desire, at the cost of art, culture, and social exchange (Goodmans).

Seeing room for improvement, Le Corbusier set forth his own counter-proposal: The radiant city. Its radiance however was reserved for the wealthy industrialists who would occupy its center, and overlook the beaux arts plan from their crystal towers. Its order relegated each mode of transportation to a different level as all functions were lifted off the ground, leaving no reason to occupy the vast green spaces that it enabled. Nature became the planar field upon which to figure buildings; the city became a mix of architectural machines for working, moving and living. It was stripped to standardized, mass-producible components of the smallest footprint (ostensibly to relieve congestion and to provide light and air) a side effect of efficient architectural self-loathing.

Unsatisfied by the garden city, other architects attempted to urbanize the landscape. Wright elaborated upon his Broadacre city from the early 1930 until nearly 1960 – part Jeffersonian agrarian, part techno-utopia, Wright attempted to solve the ills that architecture created through dispersal: buildings are sprinkled lightly across the landscape. Highway links and whirlygig landing pads enabled a fluid lifestyle of incredible

consumption in which any notion of city is scrubbed from the mind like the exhaust of its many cars by the vast green fields which separate all functions. Wright wanted to end the divide between city and countryside; the schism he proposed was the auto-mobility of the population, confining the landscape to the pictures that one flies through between fragments of urbanity.

Later, reacting to a slightly different crisis, Archizoom, realized architecture's ultimate potential in their realization of No Stop City: city is subsumed by architecture; existence enclosed to form an endless interior. The city without architecture needs no nature; it conceptually no longer exists. Outside' is confined to be the backdrop for infinite perspectives, the requisite Architectural rendering of the anti-Architectural interior. Later inverted in Branzi's Agronica, the continuous interior is replaced with idyllic agrarianism; life is supported by a shelter-less grid of infrastructure. Soft urbanization at its finest; we can have it all, as long as it is farmable.

A call for a terminus to the endless spread of informal architecture is set forth in DOGMA's Stop City. Blankness supported by a rhetoric indicting the fascism of late capital; forgetting that architect too can be fascists in their demand for form which, even if freeing its inhabitants from the auspices of globalization's evils, replaces the object of the city with an architectural one. Foster figures the city at Masdar, creating evidently selfcontained eco-city. Fueled by the endless consumption of oil elsewhere, all that it needs from the outside world is the endless drilling for capital required to support the city-asspeculation and a stream of desalinized ocean water to fill its oases.

Mimesis begat justification for the endeavors of the earliest architects. The rules and harmonies 'discovered' by the ancients constructed nature as the model for architecture. Natural justification for the artificial construction Architects today find new justifications for nature in its phenomenology; quickly rationalized as performative



NO STOP Archizoom



MASDAR Foster



STOP DOGMA

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qualities; bastardized in the market for sustainable imagery. Bio-mimicry reintroduced mimetic discourse as a scientific process, but quickly got lost in computer simulations and complexity, forgetting whom its mimicry was meant to serve. In any form, green<sup>™</sup> has become capital's darling; will architecturally co-opted nature be the next to succumb to new austerity?



**GREENWALL**<sup>™</sup> Caxia Forum, Madrid Patrick Le Blanc

## **ARCHITECTURAL LANDSCAPE**

The ideal city can always be critiqued as a result of its autonomy from its makers; it will always show a limited set of ideals. The design of utopias reflect a singular ideal - rather than a great collection of competing agendas that actually constitute a city. This autonomy is echoed in many early parks; nature was considered to be a single, totalizing entity that served the city by offering its opposite.

This sentiment was rooted in the tradition of "picturesque" understandings and compositions of landscape. Ordering landscape through the lens of the Claude glass was an architectural technique gleaned from painting, influenced by Burke's sensationalism, and practiced in English garden design. This means to organize landscape through the visual effects underlies a broad body of 17-19th century parks and gardens. Most notably the legacy of American park systems, to an extent greatly impacted by the work of F.L. Olmstead.

This legacy formed the basis for a disciplinary split: landscape and architecture were divorced at the beginning of the 20th century, and began to focus on the issue of the city from two very distinct approaches: the architects, attempting to embody culture, and the landscapers modifying and staging nature for the benefit of culture. Embedded in the larger nature/culture dialectic is the distinction between city and countryside – a viewpoint realized as ineffective even before ecologists re-discovered that humanity was indeed part of nature (Alberti). The 'edge' of the city has always been difficult to define, except for geopolitical boundaries, and is has been expanded to include its 'food shed,' 'carbon footprint,' watershed, materials sourcing, and waste landscape. Within this absurd mapping lies the city – or rather the urban condition in its most intense form. One can still



FORUM Rome, Italy



PRIVATE PRESERVE Kensington Gardens, London



focus on the city, as built, in spatial terms but must also consider the broader logics and flows which activate the "ossified" structures of the city (De Landa). Working on the spatial aspects of urbanism is the territory of architecture; with the breaking of the city-landscape dialectic, preconceived notions of "city-ness" must subside. A strip mall is urban, a sub-urb is urban, a remote mountain preserve is urban: to what level of intensity is the question. This question has helped to form the basis of the argument for landscape urbanism, which argues that landscape is the most salient means through which to organize the continuous urban condition we now face.

Within this context, public space has developed conflicting sets of ideal conditions: urban plazas were constructed for discourse and passeggiata bourgeois urbanity, while parks and gardens were designed as "preserved" nature within the city. Political participation was integral to public space - as was the conspicuous display of status: public spaces were conceived with an ideal public in mind. A history of urban parks offer an example of the different way's that designers conceive and accommodate the demands of the public.

For all of its positive effects, as a productive place of social production and leisure, the park can also be co-opted into a tool for exclusion and maintenance of existing social hierarchies, concealing spatial transgression under the guise that the park, as preserved fragment of natural utopia. This can be seen in its use as a barrier – the so called 'privacy strips' which encircle suburban enclaves, disassociating swaths of housing from any potentially disagreeable infringement from outside. Or in the tradition of the squares in London – a gated component to a broader development within the city.

In American cities, the majority of public spaces are 'naturalized' – in the form of parks or even in the potted plants of privatized public spaces (Martin). The integration of nature into the city, and into architecture is a project with a long history, driven by the

demand for public space, recreation, and respite from the city. A combination of healthfocused urbanisms and latent Jeffersonian agrarianism foretold that the majority of American public spaces would be planted. Both a reaction to the ills of the European city (for example the William Penn Plan for Philadelphia, and its aim to prevent fire and squalor through the regularity of a grid, allocating four squares for a component of green space in the city) and a freedom afforded by open frontiers, parks and open space were included in many American city plans (Similarly based in the practice of Utopia outlined above).

In the US, traffic engineers dominate the design of our environment. Landscape architecture dominates the design of exterior public space. Contemporary landscape architecture seeks to reconstruct 'memory and cultural enrichment, social program and utility, and geological diversification and succession. (Corner) A focus on "legibility and "resilience" is seen to be the means in which landscape can work to create public spaces in the form of parks. (Czerniak) However, the emphasis on landscape-as-construct: both intellectual, ecological, and cultural has led to an ignorance of the programmatic confrontations produced by the urban environment. Following an ethos of 'if you build it, they will come' with regards to the people who will eventually inhabit their designer natures, landscape architecture foregrounds the means of landscape's construction, ignoring the people who will carry it out and eventually inhabit the landscape. Movement through the landscape is seen as its principal usefulness.

Perhaps an unfamiliarity with this contemporary focus of landscape production was a benefit to a series of architects who became involved in the design of a series of public spaces and parks: La Villette, Expo 89', Downsview, and Governor's Island. Various architects have co-opting the production logic of the urban as a means to provide the organizational for its public spaces. Tschumi's non-compositional 'building' overlaid different programmatic/tectonic systems to achieve urban congestion in a park. OMA's



AUTO URBANISM New York, New York



**EXPO 89** Paris, 1992, OMA



**CONGESTION** Parc de la Villette, OMA



**POINTS, LINES, PLANES** Parc de la Villete, Tschumi



**GRID** Governors Island, REX



SUB-URBANISM Downsview Park, OMA/BMD

proposal for La Villette transposed the diagram of a skyscraper onto the site; a strategy of pure program, still untested in its goal to produce 'horizontal congestion.' The use of grids, both as non-hierarchical field conditions and as the means to accommodate metropolitan diversity, were applied at Expo '89 and in various urban projects that followed in the work of OMA. Downsview Park, represents an apotheosis of applying strategies gleaned from urbanism to the park: the isolated program and segregated pathways expunge any notion of social interaction and do produce the promised 'low density' lifestyle, yet it is anything but . Finally, The Governor's Island competition entry by REX, the grid (here referencing Jefferson's equanimity) is extruded to create a kit of parts for landscape production. This legacy of architecture operating on landscape are primarily concerned with its production in the terms of its use: while ecological performance is sometimes considered, it is less important than the strategic manipulation of activity. Architectural constructions on these parks also typically ignore the latent history and culture embodied in the site.

The distinction then, between architectural and landscape approaches to public space can then be seen to be notions of use and constituency. The different ideals: landscape as site of memory, ecology, and cultural understanding versus the site in use, offer a productive difference that can be positioned to create a public space that learns from both disciplines in its integration of natural elements into cultural production.



## **URBAN:** APPROACH

The issue of integrating nature into the built environment (and to a lesser extent, the built environment into the landscape) has been attempted time and time again, most recently in the discourse of landscape urbanism. This discourse posits that when dealing with landscape as an organizing principal for the urban condition, design shifts from that of picturesque composition to organizational performance; from fixed images to resilient systems, and lending coherence to increasingly complex parks with multiple constituencies and considerations (Czerniak). However informed and systemic these landscape designs are, they still accept a basic schism between park and city. The park is not the city, while related and linked to it, parks are understood as something separate that supports the city. For the most part, landscape urbanism has been concerned with peripheral urban sites, leaving the question of the possibility of nature in dense urban cores off the table.

Predating the establishment of landscape urbanism discourse (or even prompting it), a series of architectural projects on parks emphasized the role that of program plays in the public realm. These proposals were very different from those in recent discussion; they applied architectural and urban concepts to landscape design. This projection of architecture or the city onto landscape is interesting not only for its programmatic manipulation but also for the reconsideration of landscape material as inherently similar to that of architecture; albeit with different processes, schedules, and expectations.

Cities are an assemblage of systems that over time become a distinct, manufactured, system. Both social and material, the city is as much characterized by its physical structures as it is by its institutions. From manipulations of bedrock (reinforced

### SETTLEMENT PATTERNS FIELD, GRID, BANDS, ENCLAVES





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with piers, riddled with tunnels, and pierced by wells) to its multitude of roofs, the city is an intensification of nature. It is an ossified artifact of technological progression aimed at domesticating "nature" in all its forms. Architecture is usually confined to operate on singular objects that make up mere pixels within this landscape. Typically, to design (some call it urbanism) this landscape is impossible; it is the result of unending development carried out by independent players. However, in certain instances, the opportunity exists to operate differently: beyond a certain scale, Architecture makes its own landscape.

Architecture can foster density, while masquerade as respite from an increasingly dense city. A type that creates both only places for recreation and the curation of "nature" in the city, but also hosts diverse and necessary architectural density to both be fiscally and socially sustainable, while improving environmental performance. The traditional means to address these issues is to "plan" or "zone" an area, rather than an architecture that functions more like infrastructure, supporting other entities as a form of "positive interference" (Evans). Working on a long range of failed precedents, I believe that nature and architecture can be reintegrated by considering architecture as landscape – albeit with very special qualities provided by its artificial abilities.

How can architecture, without determining ideology expand possibilities? The city provides the ideal model for the production of human exchange: whatever its form, it accommodates the needs of its populous. The different ways that this is accomplished can be investigated and transposed to create a new system for the management of parks. Within the logics of the city there are major areas of interest for public space: flexibility and infrastructure.

Flexibility is a requisite quality of the city: nomadic lifestyles, flexible work spaces, and just-in-time production systems require it. Architecture enables this flexibility at

the scale of the building - seen in the 'typical plan,' but also in the rhetoric of often overdetermined 'free-plan' notions of high-modern flexibility. (Koolhaas) Architectural designs for public space have utilized several strategies to accommodate changing uses: time management, parcelization, and isolation. Time management is a simple idea that is difficult to manifest spatially: that different programs occupy the same space, distributed over time as a means to increase a space's capacity. Fragmentation is the breaking of general program into smaller units which are then given over to short-term occupation, creating a legible system that can indefinitely change. Isolation creates specific areas for each program; dispersed within a larger space creating voids for unanticipated events. These strategies produce coherent diagrams for the production of space - indeed they can provoke urbanity. Yet, architecture is spatial practice: it should not be satisfied only with organizational diagrams replacing design specificity.

Moving outside of buildings and operating on infrastructure is another way that architecture is given agency with regards to impart new possibilities on public space. There are three methods to achieve this: by adding value to existing systems, the designs of new systems, or operating on the interchanges between different infrastructure. Architectural infrastructure for public activities balances support with determination, enabling new uses for typical" activities and systems through architectural manipulation.

Using the logics of the city to make public space enable it to support the increased level of urban activity that the rest of the city contains; negotiating between various constituencies as a means to produce the social sublime: incomprehensible difference realized through interaction.

### **CITY ORGANIZATIONS**

EVEN GRID, DIFFERENTIATED GRID, ENCLAVES, AXES









## **PUBLICS:** UNDERSTANDING CONSTITUENCIES

The city, in a time of pervasive urbanization and global exchange, faces many challenges; inbalanced energy usage, commodity scarcity, and geopolitical unrest force us to consider the values underlying our way of life. Our settlement patterns reflect how that value is manifest in the built environment. Space, viewed as a commodity, is changing: space has been devalued in terms of "exchange value" so it can be sourced broadly in an increasingly global economy; wealth is no longer tied to landed production of goods or agriculture. Space is transcended by the flows of goods, services, and people, among and between things. However, in the city, space is still defined by its "use-value" rather than exchange value; spatial value comes in the provision of space resulting from the predominance of flows (capital, material, energy, information). While supplied by and shaped by their influence, the exchanges that take place through space (rather than in it) stabilize in the city, and are formed into material structures.

The status of public space is symptomatic of this condition. Outside of architecture, narratives can be culled from social models of public space: a relevant starting point is the idealized Greek Agora, which served as a reference for Habermas' notion of the "public sphere." Political exchange through rational discourse, the pursuit of leisure, and the market. His investigation and definition was of a particular male-dominated bourgeoisie regarding what is properly included/excluded in the public realm. This 'public sphere,' while indisputably exclusionary, was an expression of emergent democratic behavior in France at the time. Its means of exclusion were twofold: first, in its members – male, bourgeois, and with time to spare for public activity – and in its notions of what





BROADCAST Personal publicity since 2004



INAUGURATION of Barak Obama, 2009 Emily Zoladz, Grand Rapids Press



TEA PARTY Rally, Anytown, USA, 2010

was proper fodder for discourse, limiting the debate by excluding 'private' or 'household' matters. While exclusionary, this discourse served to expose the urbanite to different ideas, interests, and cultures, and enabled the collective understandings and agreements on which civil society is based. The important concept gleaned from this example is that public space must be a means to proliferate the creation, curation, and exchange of cultures.

Today, digital culture provides a staging ground for diverse – even obscure – sets of interest. This is a wonderful thing, enabling everyone to find a community of enthusiasts to foster any desire that they may want to explore. However, these communities operate in isolation, without direct exposure to the competing interests and ideas of others. While an individual may be involved in multiple communities and thereby reach an internal consensus with regards to the balance between competing ideologies, the communities themselves have little recourse to interact with others. Our political situation is one means to illustrate this – partisan political maneuvers and steadfast inability to compromise has the ability to bring entire nations to the brink of economic collapse. While it is essential to democracy to be in a constant state of debate, there are times that consensus – or at least a majority – must be reached between communities, or their members will suffer.

The concept of "public" must be considered distinct from the historically considered "crowd" or "mass." There is no singular "public opinion" or body of people that can be construed to be "the public." Rather there are many different groupings and categorizations, with different agendas, associations, and methods. Representational democracy creates limited relationships between citizen's opinions and actual decision making: the different demands of groups are generalized, censored, and projected in a totalizing concept of "public." Thus, architecture is usually confined to the production of determined, independent, typologically limited forms of public space – scattered

throughout the city.

The re-conceptualization of public is necessary to consider how public space might be designed today. Public space is an essential form of architectural practice. It also is one of the most complex: design must serve not only the needs of a singular client, but a changing, indefinite body. Architectural engagement in public interiors is far from failure; rather it is our social institutions that limit its scope to singular objects. There are a variety of successful public spaces focusing on single functions; the library, the post office, the station, the market, and the school. Yet, those that exist are increasingly marginalized as a result of declining investment, neo-liberal policy and changing cultural needs.

Exterior public space is possibly even more essential, devoted to movement in the form of streets, discourse in plazas, and respite in parks. Open interiors, in the form of Privately Owned Public Spaces (POPS) are rarely truly public, with limitations on activity and occupation. Architectural designs on both types of public space have been limited; and usually confined to creating a container for the space rather than on designing the space itself. Gross disinvestment in the public realm goes unnoticed by distracted citizens (among them architects) for whom communications technology has replaced spatial interaction.

Within architecture, the welcome cultural fragmentation loosened some of the boundaries of the discipline and resulted in a proliferation of projects for architecture. The issue du jour ranges from sustainability to social justice, from atrophying industry to the emergent informal city and alternatives to the homogenizing spatial practices of globalization – to say nothing of the fetish for purely formal investigations. Architectural ADHD is symptomatic of the multitude of cultural production ongoing today.

Different observers define new terms to describe the fragmentation of culture which has reached its apotheosis in the "cloud" structures of the internet: "otaku" (Oswalt),





radical pluralism, and the "multitude" (Hardt and Negri) all seek to describe the fracturing of preconceived notions of the public in our globalized, urbanized world. This is not necessarily a problem, as it can empower groups of individuals who would be marginalized or repressed within a generic concept of public.

Architecture must rethink how publics are considered as constituents understanding that diverse needs must be accommodated, but also that regardless of interest or agenda, certain needs can serve as common ground. Architecture, tasked with creating specific environments to support human endeavors, must strategize permanence and change differently in order to link the common threads that exist between even the most diverse publics.



## PRIVATIZED

The "public sphere" is expanding to include nearly all aspects of our lives. We broadcast our statuses, upload our photos, and tune in to other people's thoughts. Aspects of daily life are increasingly publicized through communications technology. Yet, as the public sphere extends, our public spaces are increasingly privatized.

Since the industrial revolution, the form and role of public space have been in flux, while its value (and funding) faded from our social conscious as the issues of industrialization were exported to sub-urban environments. Increasingly fragmented, the public is now composed of an evolving array of communities, interest groups, and individual actors - a product of "atomizing technologies" (Mitchell and Van Deusen) and a series of spatial practices which support this fragmentation of culture in spatial practice (Armhorst). Paralleling this fragmentation is the privatization of formerly public spaces such as the market, the library, and even the park. The need for control, security, and profit has created an agenda of privatized public space that preferences controlled, behaved, and endlessly consuming public, excluding those who cannot afford to participate or would be threatened by notions of "security" and "proper behavior." Remnants of truly public space still exist, but are no longer the norm: a troubling thought in a time of ideological unrest, an "Age of Activism." (Feffer) Our lack of interest in maximizing the possibility of public spaces illustrates its depressed value: this lack of attention will become unaffordable as cities densify.

Public space has been privatized through two processes. First, the obvious expropriation of public spaces by commercial entities: spurred by the fiscal burden of libraries, schools, and even parks, beleaguered municipalities can no longer afford to



**ZUCCOTTI PARK** Formerly Liberty Plaza, 1968 Panoramia user "Ge Casis"



**CENTRAL PARK** Public-Private Since 1980



**THE END** People's Park, Berkley, Don Mitchell "The End of Public Space"



**HYATT** Atlanta, John Portman



**GRID, TOWER, SPHERE** Madelon Vriesendorp, City of the Captive Globe

maintain public space, and partially privatize them to subsidize their enormous upkeep. This is problematic as it moves the responsibility for (formerly) public space from falling under the control of elected representatives (of the people) to for-profit entities whose interests may conflict with that of the public. The impact of this can be minor, such as the 'naming' of elements in a space, or major, leading to exclusion of 'undesirable' behavior and activities normally fulfilled by public space.

The second, more sinister cause is the application of design strategies in public realm that effectively privatize space not only through direct exclusion, but through the limitation of possibilities. That which was previously held in common is parceled out to specific interest groups – isolating experiences and weakening the connection between public space and social interaction.

Communities, spatially defined as "neighborhoods" were once considered the basic unit of urban life. Movement through the urban environment involves navigating through a sea of unforeseen events; change is one of the underlying principals of metropolitan life. When our multiple associations with different communities no longer occur in the (private) spaces in which we live (following the traditional model of social interaction at the scale of the neighborhood), there must be new spaces to accommodate meetings, events, and activities for the diverse set of interests that exist (and continually change).

Public space is essential to the production of urbanity. When the demand for public space will only increase, privatization must be engaged architecturally by changing design practices to ensure the possibility of common use and by creating new hybrids that can fortify the few remaining bastions of public space. To continue to practice the status quo will only lead to the loss of public space to the forces of privatization.

## AGENCY

Architectural agency lies in the production of space. It cannot directly operate on social interaction. However, architecture is a product of society, the physical manifestation of an ideal. The design of public space is an operation on ideology; whom has the right to use it, what activities are appropriate, and when will they pass into obsolescence. Architecture must reclaim public space as site for intervention; to do so it must construct narratives that address the underlying values, ideals, and policies that become embodied in the final spatial product.

Public space has been long defined as a place for discourse, leisure, culture, and the market. The involuntary exposure to unforeseen events is what makes the city a machine for the production of culture. Assimilation and exposure of different cultures is a specifically urban event. The value of the city is friction, and the cultural production that results from this diverse set of interactions. The city doesn't foster communities of homogenous composition removed from the challenges and contact of urban life: the city publicizes all aspects of society. While obscured through various media (including architecture) the city (both people and built environment) is the veritable embodiment of the true values and judgements underlying society – and public space is the arena in which the interactions – contests – collisions of ideology play out in constructing that society. The "city" and the "public" are a continuous process, rather than a definite or stable entity.

There are three modes to architectural practice with regards to spatial agency. It can enforce and reproduce existing organizations, hierarchies, and orders (fig. 1); work between communities as technical mediators (fig. 2), or create infrastructures for autonomous production (fig. 3) (Findley). Like the example of the telephone, internet, or book, architecture has the ability to be a mechanism that disrupts behaviors in a beneficial way. How can architecture disrupt conceptions of public space in a positive way?



Architecture, in its origins, is a destructive force. Trees are cut down, mountains are transformed into flat lands, the earth is penetrated through the digging of holes...

Josep Luis Mateo, Natural Metaphor

# Reference

Definitions, Precedents, Annotated Bibliography

## Terms

Agency -	Instrumentality; whether between multiple parties or independent of outside forces; the ability to perform (an action); the capacity to objectively initiate social change	
Architecture –	is the practice of the ideal, principally concerned with the coordination of the making of structures, through the communicative medium of the drawing or diagram.	
Artifice –	a technical construction; the result of human intervention. Often produced with the purpose of deception.	
City –	a historical-material construct; fueled by agricultural surplus that condenses exchange for the mutual benefit of its makers. Once defined as an agglomeration of buildings and infrastructure, it may now be re-considered as an intricate set of spatial and informative relationships; the vast systems that support a concentration of humanity.	
Community –	a self-defined grouping of individuals with a common interest, a subset of the society in which they live; a unit of identification; a group of individuals acting towards a common end	
Democracy –	government by the people; sovereign power resides in the people as a whole; exercised by them or their elected representatives	
Ecology –	the study of relationships, and the systems which form as a result of those relationships	
Extraction –	the act or process of removal (of a material or information) by mechanical means, or any process which holds this as its aim; such as farming, fishing, foraging, recycling	

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Infrastructure –	the myriad systems which support human life: including transportation, energy, food, even the underlying plans that help determine cities.	
Landscape –	an encompassing environment; land shaped by human occupation - whether through the construction of images or through the working of the earth itself. Rather than a way of seeing, landscape is a way of using this environment to meet the needs and desires of it shapers.	
Nature –	the sum of life and geology; commonly used to separate "that which is not of human origin or design"; that which is common to experience, expected outcome	
Public –	something held in common; a 'free' domain, a cultural construct: even as applied to nature (parks, preserves, forests)	
Publicity –	the quality of being public; the notice or attention given to something – making that thing publicly known, the medium through which to accomplish this end	
Pluralism –	cultural diversity through abandoning totalizing viewpoints of culture; yet recognizing invariable human rights, liberties, and basic needs	
Urbanism –	practices concerned with the history and making of the city with the goal to affect its development	

## Catalog



Central Park - 1860 - Olmstead and Vaux The section and manipulation of circulation is important to accomplishing the dual goal of the park. Greensward was a careful orchestration between forms of circulation and spatial effects. The downfall for the park is that it was designed with a specific end user in mind. While accommodating infrastructure and introducing natural disruption into the city, in its initial form, it failed to accommodate the changing needs of the city that grew around it.



Parc Des Buttes de Chauxmont- 1884 - Alphand Engineer Alphonse Alphand was tasked with reclaiming a quarry, integrating a rail line and linking the park with Haussman's boulevards. The 'accommodation' of leftovers' from the urban designs of Haussman created a system of 'non-hierarchical' organization which resulted from the layering of those leftovers. Furthermore, the topography of the park was used not to create a disconnection from the city, but rather to frame the city as one moved through the park. (Meyer)

### Garden City - 1902 - Howard

Broadacre City - 1931 - Wright

The primal attempt to reconcile nature with the city; creating fragment-towns which would be small and separated. \*An intellectual would rather meet a bear in the woods than live in a Garden City." (Goodman)



Like Central Park, this park was designed according to notions of a picturesque and wild nature as the primary element for the park. Furthermore, it integrates working reservoirs into this landscape to support the city below. Unlike central park, the extreme sectional change (300') maintained its single-function visual effects, and exists as a fragment of the Olmstead tradition of park design.

Mt. Tabor - 1894 - Emanuel Tillman-Mische



Plan Vosin - 1925 - Le Corbusier Faced with a self-loathing for architecture (and the city), the Plan Vosin scrapes the urban surface clean of activity, populating it with barren, endless lawns.



Part Jeffersonian agrarian, part techno-utopia, Wright attempted to solve the ills that architecture created through its dispersal. Highways and whirlygigs enabled a fluid lifestyle of incredible consumption in which any notion of city is scrubbed from the mind. Wright wanted to end the divide between city and countryside; the schism he proposed was the auto-mobility of the population, confining the landscape to the pictures that one flies through between fragments of urbanity.



### Saynatsalo - 1952 - Aalto The town hall was situated at the edge of the settlement, and spatially encloses a portion of the landscape within architecture, to be used as an unprogrammed, outdoor room.



### No Stop - 1969 - Archizoom architecture's ultimate potential in their realization of No Stop City: city is subsumed by architecture; existence enclosed to form an endless interior. The city without architecture needs no nature; it conceptually no longer exists. Outside' is confined to be the backdrop for infinite perspectives, the requisite Architectural rendering of the anti-Architectural interior.



Lovejoy and Keller Fountains - 1971 - Halprin Part of a sequence of public spaces, these fountains create architectonic landscapes. They were a means to attract residents back to the downtown, linking the spaces with pedestrian pathways; a second layer of infrastructure to the grid of the city.



### Freeway Park - 1976 - Halprin

While mostly a connective element, the "park" includes and expands the infrastructures on the site, spanning the interstate to re-connect areas of the downtown. The section is crucial to its function, as it wraps over, under, and around the streets of the city.

La Villette - 1982 - OMA, Tschumi The two projects for La Villette used strategies of superimposition: Tschumi, the winner, architecturalized the landscape, projecting layers of tectonic elements designed to create programmatic collisions. OMA worked less with form and more with program, arranging the site in a series of bands to maximize the interface between programs. The birth of the landscape urbanism discourse.



### Expo '87 - 1987 - OMA

Austerity limited the intervention to an organizational diagram; an ubiquitous grid was projected onto the site; each country participating in the exposition would be given a square on the grid to do what they wished (OMA). Circulation was indeterminate; people would be free to proliferate through the border of the site to prevent overload of the city's traffic infrastructure. The OMA plan for the expo created an urbanism ground-zero: minimum investment, concept, and architecture.



### Melun Senart - 1987 - OMA

Yokohama Forum - 1992 - OMA

A third attempt at "Imagining nothingness," voids were projected across the landscape in equal measure to new city. As a means to projectively intensify the areas trapped between the voids, they were filled with recreation, culture, and infrastructure: anything but the city itself.



### La Defense - 1991 - OMA

A proposal for the continual renewal of an entire cityscape; scraping areas bare selectively to create new relationships and curate the architecture of the city.



The problem was creating a possibility for urbanity within an anti-architectural environment. Existing structures (market halls and accompanying parking) are co-opted into density through timing. Manipulating the function of parking to provide spaces for other events, the site is covered in 'programmatic lava' All available space is consumed with program, with the minimum articulation of architecture as a strategy for future accommodation.



Schouwburgplein - 1996 - West 8

In this case, the context's programmatic saturation created an instance of de-programming; the 'empty' plaza is occupied only by three lighting cranes, movable elements which can be hired by the public to move and change the concentration of light. The otherwise flat surface is host to infrastructure for its occupation: lights, tent foundations, and drainage – while venting the parking area below.



Yokohama Terminal - 1995 - FOA The thickened urban surface of the urban ground is manipulated to coordinate the flows of goods, vehicles, passengers, and the public.

### Downsview Park Toronto - 1999 - OMA

The product of a reading of the suburban context as a 'virtue' rather than vice – positing that rather than banal homogeneity, low density can provide a 'playground' for the broader urban population to unwind. It consisted of vegetal clusters and independent path systems, each geared to a different activity or experience. The vegetal clusters, a mix of trees, water, and gardens, are accomplished with a minimum of means; an investment rather than expenditure. "Low density metropolitan life."



Downsview Park Toronto - 1999 - Field Operations Seeding the landscape with a series of landforms to incite ecological development takes precedence over the human occupation of the park; form before program. While emergence is a useful tool to work with unpredictable circumstance, it need not be limited to the cultivation of nature; new program and experience are necessary counterpoints to fresh ecology.



**Olympic Sculpture Park** - 2000 - Weiss/Manfredi Linking three parcels over a railway and road, architecture took the form of a sectionally sculpted landscape-bridge, coated in a thin surface of vegetation which capped remediation, parking, and infrastructure for future artworks.





### Les Halles- 2003 - OMA

The belly of Paris offered the opportunity to reintroduce the section into the design of public space. The need to link the street with the parking and trains below led to the creation of buildings which were part protrusion, part incision into the city. Programmed with different programs or none at all, the architecture is a new means to connect the underground with the surface. Its attitude towards nature is linked with use

### Governors Island - 2006 - REX

Responding to the many assumptions set forth in the brief with regards to use, programming, and development, this competition entry avoids a determinate plan, instead proposing a Jeffersonian strategy for gridded public spaces that could be swapped to suit the many possible outcomes of development and public use on governors island.





### Fresh Kills - 2004 - Field Operations

The proposal lay in the reconstitution of latent elements; branding them as part set of green spaces that would change the role of Staten Island in relationship to the rest of New York City. The landfill diluted the site to a situation of "relative homogeneity" and populated it with 'alien ecologies. To re-purpose it, 'A 'matrix' of elements is then added to foster the eventual 'colonization' of the site: threads, mats, and islands. Succession, rather than superimposition is the strategy for the park

### Governors Island - 2006 - West 8

An attempt to create a new, fantastic idea of what a park for the 21st century could be. It manipulates the island and its shores with a series of cut and fill landforms, inventing a new use rather than attempting to systematize it.
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