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Urban Banyan
public space in section

by

Elmira Yousefi
B.Arch Sci, Ryerson University, 2007.

A design thesis|project

presented to Ryerson University

in partial fulfillment of the

requirements for the degree of

Master of Architecture
In the Program of
Architecture

Toronto, Ontario, Canada, 2010

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Urban Banyan - public space in section
M.Arch. (2010)

Elmira Yousefi
Master of Architecture
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Abstract

There exists a lack of public funding or political authority within the 21st century North American city for the creation of public space. In the absence of this authority, architecture can resist being merely a commodity for global profit and become an agent for the creation of public space through built form. While this is a topical idea in architectural discourse, through synthesized research into contemporary urbanisms and by way of several architectural projects that explore public space, this thesis proposes an alternative methodology to the conventions of framing public space through the horizontal deformation of a building. This thesis places public space as the hierarchal organizing figure for urban architecture and proposes a new connective public domain that might operate more like the Nolli Map in section rather than in plan.

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Dedication

For my mother, Sadie Gandomi

Contents

Abstract v

List of Tables xiii

List of Figures xiii

List of Appendices xv

Introduction 1

1.1 Public Space yesterday, today and tomorrow 1

1.2 Towards a new urban typology 3

1.3 Compact Cities and Sustainable Urban Development 5

1.4 Literature Overview 6

Public space 9

2.1 The North American City as Theme Park 9

2.2 An International Perspective 11

2.3 Urban Planning through Architecture 12

2.4 The Nolli Map of Rome as Precedent 14

Re-imagining the contemporary City 17

3.1 Heterotopia and Flow Urbanism 17

3.2 Integral Urbanism 19

3.3 Landscape Urbanism 21

3.4 Architecture and Landscape 22

3.5 Rethinking Architecture as Landscape 23

Envelope and public space 27

4.1 Urbanizing Architecture 27

4.2 Envelope as Mediator 29

4.3 Envelope: Movement through Porosity 30

Architecture and public space: Case Studies 33

5.1 Le Corbusier 33

5.2 Table Top Architecture 35

5.3 Blanket Architecture 39

Urban Banyan 45

6.1 Introducing the Urban Banyan 45

6.2 South central west Toronto - Queen and King Street West, a unique site

6.3 Design 48

Nolli Section **69**

Conclusion **75**

References **77**

Appendices **79**

List of Figures

Fig. 2.3.1 UFA Cinema Center
Fig. 2.3.2 Entertainment Center
http://www.coop-himmelblau.at/site 14
Fig. 2.4.1 The Nolli Map of Rome
http://nolli.uoregon.edu/map/index.html 15
Fig. 3.5.1 Yokohama Ferry Terminal
http://architourist.pbworks.com/f/1130447720/ferry-terminal2.jpg 24
Fig. 4.3.1 The Phaeno Science Centre, Wolfsburg Germany
http://offcite.org/wp-content/uploads/2008/12/phaeno.jpg 31
Fig. 5.1.1 Five Points of Architecture 34
Fig. 5.1.2 Maison Cook
Google Images 34
Fig. 5.1.3 - Model of Villa Stein
http://farm4.static.flickrcom/3310/3248467068_904b208a30.jpg 34
Fig. 5.1.4 - Unite de Habitation
http://farm4.static.flickrcom/3107/2749452600_6f0fbcccaf.jpg?v=0) 35
Figure 5.2.1 - Sharp Centre (OCAD)
http://www.arcspace.com/architects/alsop/sharp_center/1ocad.jpg) 36
Fig. 5.2.2 Peckham Library
http://thelunaticarms.files.wordpress.com/2009/10/pecklib460279-glow.jpg 36
Fig 5.2.3 The Museum of Primary Arts
Ricciotti, 2001, p. 390 37
Fig 5.2.4 Aomori Prefectural Art Museum
http://www.sadarvuga.com/common/picture.php?pid=45&width=630 37
Fig. 5.2.5 Taipei Arts Centre
http://cmuarch2013.files.wordpress.com/2009/05/taipei-performing-art-center2.jpg 38
Fig. 5.2.6 Groninger Forum
http://2.bp.blogspot.com/_ScdnDt-ZTeI/RcN4YzItJVI/AAAAAAAAADg/XrZTL4p37jY/s400/groninger-forum.jpg 38
Fig 5.2.7 Thermal Bridge, Northern Style Housing
http://www.narchitects.com/frame set-aomori.html 39
Figure 5.3.1 - Roof House
http://2.bp.blogspot.com/_UOJWFiCdVqU/

ShUhtqiQZgI/.jpg) 39
Fig 5.3.2 Delft University Library http://www.galinsky.com/buildings/delftuniversitylibrary/entrance.jpg 40
Fig. 5.3.3 Youth House http://www.kanyeuniversecity.com/client_images/kanyewest.jpg 41
Fig. 5.3.4 Housing/Retail/Public http://www.big.dk/big.html 41
Fig. 5.3.5 High Square http://www.big.dk/big.html 41
Fig. 5.3.6 Israel Square http://www.big.dk/big.html 42
Fig. 5.3.7 Yokohama Ferry Terminal http://www.e-architect.co.uk/scotland/jpgs/riasconv03_FM_FerryTer.jpg 42
Fig. 5.3.8 Eybeam museum of art and technology http://www.artnet.com/magazine/FEATURES/jsaltz/Images/saltz4-16-4.jpg 43
Fig. 6.1.3 Thesis Parti 47
Fig. 6.1.1 Existing building typlogy on Queen St. West 48
Fig. 6.1.2 Proposed building typlogy on Queen St. West 48
Fig. 6.2.1 Site Map of Queen Street West 48
Fig. 6.2.2 Linear vehicular movement on main streets (existing) 49
Fig. 6.2.3 Organic pedestrian movement in open spaces (existing) 49
Fig. 6.2.4 Figure ground illustrating existing openness of Queen Street West 50
Fig. 6.2.5 Figure ground illustrating future condition of Queen Street West post conventional infill 50
Fig. 6.2.6 Potential open spaces for new urban typology to be implemented 51
Fig. 6.2.7 Potential pulbic space network through the combination of pedestrian streets and open spaces 51
Fig. 6.2.8 Site attributes influencing form 52
Fig. 6.2.9 Interfacing with the building fabric 53
Fig. 6.2.10 Exploded Axonometric 54
Fig. 6.2.11 Plans 55
Fig. 6.2.12 Section A-A 56
Fig. 6.2.13 Section B-B 57
Fig. 6.2.14 All season events: Tobogin and Ice Scultputre show 58
Fig. 6.2.15 Cultrural Festivities: Chinese Lantern Festival 59
Fig. 6.2.16 Variations on a theme 60
Urban rock climbing 60
Fig. 6.2.17 Variations on a theme 61
Farmers market 61
Fig. 6.2.18 Variations on a theme 62
Public forum 62
Fig. 6.2.19 Variations on a theme 64
Urban camping 64

List of Tables

Table 8.1.1 Master matrix 81
Table 8.1.2 Table-top breackdown 83
Table 8.1.3 Table-top breakdown 85
Table 8.1.4 Blanket breakdown 87
Table 8.1.5 Blanket breakdown 89
Table 8.2.1 Toronto's Open Spaces 90
Table 8.2.2 Toronto's Public Parks & Paved Public Space 90
Table 8.2.4 Toronto's Parking Lots in 2009 - Potential Site for key interventions 91
Table 8.2.3 Toronto's Parking Lots in 2007 91

List of Appendices

8.1 . Research Matrix 79
8.2 . Toronto Site Analysis 90

“As ecological success is measured by the capacity of our planet to support all life forms, urban design success should be measured by its capacity to support humanity ”.

- Nan Ellin, 2006, p.2

Introduction

1.1 Public Space yesterday, today and tomorrow

One cannot consider urban design success without considering public space. The quality and use of the city's public open spaces is critical to providing a future that encourages sustainability, density and greater permeability. Open public spaces promote pedestrian and environmental movement in the city while offering residents places to create a community. These sites of traffic and dwelling foster social exchange that result in a strong sense of identity. In the eyes of many contemporary urban theorists such as Nan Ellin, this is the tool that will move our cities towards becoming more sustainable human habitats. However, a lack of public funds has caused many North American cities to lose control over urban design as private developers procure the largest and most valuable pieces of land (Prix, 2003). This shift has resulted in fewer traditional public spaces such as squares, parks and public buildings being erected in the city, and to the development of more private rooftop amenities, shopping malls and buildings that lack public value.

The concern for public space has become a global one expressed in publications such as The state of architecture at the beginning of the 21st century, in which 60 of the world's leading architectural designers, historians, theorists and critics contributed to contemporary manifestos. The gradual privatization of public space in western cities is having a profound effect on contemporary architecture as a whole. The fear that architecture is ending up as an infrastructure built to maximize profits within the global economy has led the architectural community to advocate its acting as an agent for a new

philosophy of urban planning (Prix, 2003). Conversely, without architecture, urban planning may soon cease to exist and, as provocatively stated by Wolf Prix, “the master plan is dead” (Prix, 2003, p. 18).

Historically, cities in Italy, Greece and even some in the United States such as New York were designed from a master plan that carefully designated open public spaces in an effort to create a well-balanced urban plan. Roman cities were built around a public forum, or centre, that contained temples, markets, amphitheatres and government buildings. The ancient city of Miletus in Greece, one of the first urban plans proposed by Hippodamus, was organized by dividing the land into three distinct areas: sacred, public and private. These three areas were laid out over a diamond grid and clearly delineated the spatial forms of sacred and public spaces throughout the city. Similarly, New York’s master plan also designated public green parks on its planning grid, such as Central Park, Bryant Park, Tompkins Park and Washington Square Park. However, in the wake of today’s complex cities, we do not have the luxury of creating master plans, nor is the process of creating new public space as easy as laying down a grid and filling it up square by square with architecture. In the contemporary city, public space is no longer predetermined but rather developed through the tensions and relationships between built forms (Prix, 2003), i.e. the plaza in front of skyscrapers (as is commonly seen in New York City), alleyways between buildings and most commonly the interior street, also known as malls.

Public space is under attack today from pressures of privatization, security and consumerism. The obsession with sales and production has resulted in modern cities growing with artificial landscapes created by malls and big-box retail, the effect being similar to a theme park. (Sorkin, 1992) Taking the place of squares and parks, these new buildings have become public realms but without freedom of speech, demonstration, or free will. In addition to this loss of democratic public space, the modern city is tending towards the gradual phasing out of urban streets due to newly privatized types of travel such as private underground and overhead routes. As corporate institutions gain ownership of large sectors of urban real estate, the building of bridges and tunnels contributes to private developments taking over even more downtown space. Increased use of cars contributes to the creation of an unsafe and undesirable neighborhood with the removal of pedestrians from streets and into privately enclosed routes. This phenomenon prohibits the integration of all sectors of society, something essential to the creation of truly dynamic public spaces, and replaces it with a simulated space like a surrogate (Boddy, 1994).

This thesis recognizes the lack of accessible and desirable public space in the city and proposes a new urban typology that would use public space as its hierarchical organizing element.

Over the last century in North American cities, urban development has treated the city as a machine for efficiently sheltering and moving people, money and goods. This “city-as-machine” approach has usually resulted in master building upon a tabula rasa, or clean slate. However, there are restrictions to such an approach: the modernist result has been fragmented cities without soul or character (Ellin, 2006). This thesis proposes interventions in key areas of the city that will create a domino effect and be catalysts that ensure the dynamic nature of future developments. The proposed new urban design revolution differs from master plans such as Ville Radieuse and Yona Friedman’s floating city above Paris and is at the heart of the Integral Urbanism approach advocated by Nan Ellin, who believes that the ripples generated by small interventions can grow dramatically to reshape our physical environment at the same time as they enhance our quality of life.

For architecture to play an active role in urban planning and to aid the public realm, it must propose an urbanistic mandate that would provide form for the theatre of public life and shed its ‘object’ or solely figural aspect. New urban theories such as Landscape Urbanism, Flow Urbanism, Integral Urbanism and landscape-oriented architecture can help shape this new urbanistic architecture. Landscape Urbanism incorporates the realization that landscape architecture, architecture and infrastructure are all connected and should be visualized and realized as a whole. Its interest in surfaces, where roofs and ground become one and the same, has the potential to create a ‘Performative Urbanism,’ where areas are used for programmed and un-programmed spaces and have multiple social functions (Corner, 2006). For example, the Yokohama Ferry Terminal designed by FOA has completely accessible surfaces and combines a ferry terminal with a public park on its roof.

The Yokohama Ferry Terminal introduced a new urban typology called ‘Flow Urbanism’ which strives to create heterotopias that refocus urban public life within spaces of intense movement. The creation of an unimpeded flow is considered a liberating and productive new way to experience the city. It would reposition the city’s spaces of flow as key public spaces that would replace the static and representational town square (Stickells, 2008). This idea of integration is also explored in ‘Integral Urbanism’ where it is contended that Hybridity and Connectivity would encourage activities and people to come together, and present people and nature as well as building and landscape as symbiotic, rather than oppositional.

1.2 Towards a new urban typology

The envelope, one of architecture’s most fundamental building components, has an untapped

potential for creating new urban public landscapes. The tectonics of scale and form found in contemporary architecture can be extrapolated into the modern North American public domain— a realm currently limited to streets and sidewalks— through the building envelope, providing a place to dwell as well as alternative pedestrian routes. As described by Bernard Tschumi, “the envelope is a site of social relationships with the potential, when integrated with program, movement and context, to turn concepts into reality” (Tschumi, 2003, p. 63). This view contrasts the modernist, two-dimensional façades derived from towers in plazas. This thesis proposes a three-dimensional envelope that would animate public space 360 degrees as it wraps around the ground plane underneath, adjacent to and hovering above it to create a cradling public space. Such an envelope would create potential for new and dynamic public spaces with a vernacular nature that would be derived from the context in which they were created (building programs) and that would potentially result in several unique public.

City streets and sidewalks are the last preserves of something approaching a mixing of all sectors of society with the creation of a truly dynamic public space. City streets can be seen as forums of human rights: people of all classes and ethnicities mingle freely and equally. Streets are as old as civilization and, more than any other human artifact, have come to symbolize public life with all its human contact, conflict and tolerance (Boddy, 1994). Therefore it is critical that building envelopes have a relationship with streets on the ground plane so that they are an extension of that public realm. Making envelopes accessible and visible from the ground plane would ensure that they benefited from intensely used city streets and make them dynamic places that would participate in the shaping of public life.

These new envelopes can work collectively as both enclosures and as part of the ground plane; in other words they can extend the public realm under, over and through the built form. This continuous network of open public spaces can generate a new urban plan similar to that of the Nolli Map of Rome. The Nolli map treats public space as an enormous mass that has been carved away to create outdoor spaces. Public space is seen as the figural element in the city; surrounding buildings represent the field or ground onto which this element has been superimposed. In contrast, the modern city reverses this conceptual reading: the building is always seen as the active figural object (for example, the tower in the plaza). This thesis follows the example of the Nolli map and emphasizes public space as the figural element. The result is that, instead of celebrating object buildings, architecture celebrates its ability to create public space through envelopes. Applying new urban theory to building envelopes allows for an increase of urban public space in the city, effectively creating a new Nolli map in section for North American cities.

In the recent past, a select group of mainly European architects have experimented with the building form to generate habitable, exterior open space. Their projects, which are studied in detail in this thesis, have been categorized as two types: ‘Table top’ and ‘Blanket’ architecture. The Table Top typology lifts the building off the ground, allowing for the ground plane to pass underneath, while the Blanket typology extends the ground plane over program on grade, like a blanket. While these two typologies are the inverse of one another, they accomplish the same goal of extension of public space contiguous with the ground plane. This thesis proposes a hybrid; the combination of these two typologies can provide an amplification of public space that would provide both density and open space, both of which are required in compact urban development.

1.3 Compact Cities and Sustainable Urban Development

The creation of open public spaces would not only support a higher quality of life in our cities but also would be instrumental in our progress towards a sustainable future. There is a widespread belief that compact urban development will contribute to sustainability. Care in the commitment and use of space is one of the most important sustainability issues, as stressed by G. de Roo and D. Miller in the book: Compact cities and sustainable urban development. While evidence suggests that thoughtless control of density can create issues of congestion and pollution, perhaps it is time to institute careful plans for making our cities compact. Urban and environmental planners are becoming aware of the negative side effects of dense patterns of urban development, such as more acute pollution and loss of pedestrian open space, (Roo, Diller, 2000, p. 2), and this thesis proposes an urban architecture that would have building projects striving to provide open public spaces, that would accept responsibility for caring for the public realm, and that would therefore lead us towards a sustainable urban plan for the 21st century city.

According to Roo and Miller, rapid decentralization has been a feature of urban growth in most western countries ever since the end of the Second World War. This decentralization took the form of massive suburbanization in Canada, the United States, Japan and Australia and created, in its extreme forms, ‘the 100-mile city’ along major transport routes. In Europe, however, cities have tended to spread out from urban nuclei. These patterns have been a source of concern because of the resulting loss of landscape and the costs of providing infrastructure as space becomes much more expensive.

Compact spatial planning of building/landscape is described in the early works of Le Corbusier, specifically in his ‘Five Points in Architecture’. These precepts were illustrated best in Le Corbusier’s domestic architecture, where he attempted to deal with the problem of mass

housing in dense cities while preserving open and green living spaces. Corbusier saw the various spaces in the house as being united by a spatial continuum, with open spaces created by the Pilotis and the flat roof increasing an otherwise small available area. This thesis acknowledges Corbusier's vision for public space within the architectural project; however, it also advocates the creation of new public space within the context of the city as it exists today rather than as a grand project conceived on a tabula rasa (i.e. Plan Voison, Paris 1925).

The 'Compact City' has been espoused as a counter-strategy for reducing the spread of low-density urban development and for preserving the countryside. Prescriptions concerning the form suggest that re-centralized, compact urban developments could vary from urban infills with moderately higher densities in existing community centers to major restructuring of cities (Downs, 1994). This 'compact' concept will be explored in this thesis through a new typology of building. By lifting the mass to clear grade for public use, the architect can simultaneously create enclosed private space and open accessible public space. The once linear relationship between building and adjacent open landscape will be challenged with a more lateral system to promote the new compact typology being proposed.

1.4 Literature Overview

The first chapter of this thesis discusses contemporary issues regarding public space in North American cities. In recent literature such as: The state of architecture at the beginning of the 21st century, edited by Bernard Tschumi, as well as the book: City as theme park by Michael Sorkin, authors express concern for the privatization of public space and its effects on architecture. They fear the gradual abandonment of traditional public spaces — squares parks and city streets— for new semi-private public spaces such as shopping malls, which are created by private developers. In an effort to resist architecture used as infrastructure and built to maximize profits within the global economy, architects are calling for a new philosophy of urban planning through architecture. A renewed interest in the Nolli map of Rome has the ability to set precedence for continuous public space throughout the city using architecture. The Nolli map realizes a vision for a North American city that assumes an 'urbanistic' approach to architecture.

The second chapter of this thesis presents contemporary urban theories that would provide architecture with the tools for this new 'urbanistic' approach. New urban theories such as Flow Urbanism, Integral Urbanism and Landscape Urbanism, along with other supportive literature, are the most current takes on the subject. Flow Urbanism in conjunction with an interest in Heterotopia (in-between space) advocates for smooth spaces of urban mobility that can generate new forms

of public space. Integral Urbanism also supports connectivity and porosity while adding Hybridity as a tool for creating public cities and encourages small-scale interventions with large-scale influence. The Landscape Urbanism movement renders cities as landscapes where architecture and infrastructure are connected, visualized and realized as a whole. These new urban theories suggest formal qualities for an urbanistic architecture.

Finally the third chapter of the literature review presents research on architectural projects that have in a significant way incorporated public space in their design. The case studies have been categorized under two main building parti's: The first being the 'Table Top' projects that lift the building off the ground plane and the second, the 'Blanket' typology, which extends the ground plane over the building.

Public space

2.1 The North American City as Theme Park

Public space in modern society is under attack from pressures of privatization, security and consumerism. This attack is especially evident in Michael Sorkin's book: Variations on a theme park - The new American city and the end of public space (1992). He questions the emerging cities in modern society, arguing that they are artificial landscapes growing in similarity to the qualities of a theme park. Sorkin believes that the obsessions with production and sales are creating this phenomenon and it is sacrificing the idea of the city as the site of community and human connection.

Using McDonald's restaurant as an example, Sorkin argues that context is irrelevant for these object buildings. They can be inserted equally in an open field or in the heart of town. Another example provided is the inward-looking atrium hotel. "Its components are reduced to a repetitive minimum; space, Sorkin argues, is departicularized" (Sorkin, 1992, p. 13). Sorkin maintains that the desire for consumption and a new globalized capital has produced places that are dislocated from any particular context. The author believes that this impulse of segregation has shifted city planning from its historic role as integrator of communities in favor of managing selective development and enforcing distinction (Sorkin, 1992, p. 15). The city as Sorkin describes is a placeless, segregated and simulated that as he illustrates, contains public space that restricts speech, demonstrations, and free will. Sorkin believes that, "the fight to reclaim the city is the struggle for democracy itself" (Sorkin, 1992, p. 15)

In the same book, Trevor Boddy in his essay "Underground and overhead: building

the analogous city" discusses the loss of democratic public interaction through the gradual abandonment of city streets due to newly privatized routes of travel: private underground and overhead passage ways. Boddy refers to overhead and underground passageways as surrogates, as simulation of urbanity.

Streets are as old as civilization and as more than any other human artifact; they have come to symbolize public life with all its human contact, conflict and tolerance (Boddy, 1994, p. 123). However, as corporate institutions are gaining ownership of large sectors of real estate in the city, public streets are becoming vulnerable: "across North America, downtown streets are now subject to attack, a slow, quiet but nonetheless effective onslaught underground and overhead, by glittering glass walkways above streets or tiled tunnels beneath them … these new routes are the new public realm" (Boddy, 1994, p. 123).

Over the past decade, new extensions to the city have appeared in downtown city centres across the continent, in various places such as Minneapolis, Dallas, Montreal and Charlotte. These raised pedestrian bridges connect dispersed new towers via a linked system, where mazes of tunnels lead from public transit to workplaces without recourse to conventional streets (for example, Toronto's underground pathway that connects Union Station to several major nodes). While these new urban prosthetics seem like mere tools or value-free extensions of the existing urban realm, according to Boddy, they are anything but this. "These routes attached to towers, shopping centres and food fairs provide a filtered version of cities, a simulation of urbanity" (Boddy, 1994, p. 124). By eliminating the most fundamental of urban activities — people walking along streets — the new pedestrian systems underground and overhead are changing the nature of the North American city (Boddy, 1994, p. 124).

Traditionally, development in North American cities was once limited by the pattern of land assembly — the city block. However, "new bridges and tunnels allow the extensions of the filtered corporate cities over entire sectors of downtown" (Boddy, 1994, p. 125). Where once streets and sidewalks intervened between islands of glass and spandrel panel, new bridges and tunnels continue the same corporate architectural order as with the same socio-economic order — thus removing even this remaining vestige of public life –(the street) and replacing it with an analogue, a surrogate (Boddy, 1994, p. 125).

Ultimately, Boddy stresses in his essay that downtown streets are the last preserve of something approaching a mixing of all sectors of society, which creates a truly dynamic public space. City streets are the forums in which to act out human rights, where people of all classes and ethnicities can partake in social identity exchange. However, while private underground and

overhead passageways might not be an ideal public space, there are some obvious benefits to using these new travelling devices, particularly for cities in northern climates. Boddy uses Calgary's plus fifteen system and Montreal's very intricate underground network as examples. Such devices beat the environmental extremes of heat, cold and humidity, which make conventional streets unbearable. However, as Boddy stresses the importance of city streets, there exists a need to integrate these new passage ways with the street properly through design. By making these new systems accessible from the street, where they give recourse to grade and are made visible, it is possible to encourage a flux of people to move constantly from the street to the bridge, and back. This essay raises some very important issues when considering the design of public space and public passage in North American cities. The first is to recognize the importance of city streets in generating democratic public identity, accessible to everyone regardless of class and ethnicity. Second, it is important to connect overhead and underground public space and passage to grade — the public realm, where these alternative routes are made visible and accessible.

2.2 An International Perspective

"The quality of our public space affects the quality of all our lives." – John Prescott

This quote by John Prescott, Deputy Prime Minister of England, is captured in the book: People making places: Imagination in the public realm, a publication that sums two years of seminars, workshops and arts-based 'street transformations,' and involves professionals, councillors, artists, planners and architects, along with a strong input by local communities and the general public. The result of this endeavour resulted in laying out the city of London's intent for envisioning an urban city that is built on the principles of design excellence, economic strength, environmental responsibility, good governance and social well-being.

From the investigation conducted, the quality and use of the city's public, open spaces are considered most critical to providing a future that encourages sustainability, density and greater permeability throughout the city (Powell, 2004, p.8). Interest into how public spaces affect the quality of cities is expanded by Will Alsop in his essay 'Imagine!', which challenges the use of existing public spaces and proposes a new way to use ordinary city spaces such as streets and sidewalks. By proposing galleries, markets and continuous performance spaces within the streets, Alsop believes that it can have the ability to liberate many static institutions and redefine how many open spaces in the city can be used.

Continuing the investigation, Andrew Darrell, New York Regional Director of Environmental Defense, finds the potential in open spaces that can be reprogrammed. Linking traditional public

spaces such as parks, squares or streets and combining it with areas without defined program can become part of a transportation network for the city, linking communities that have not yet been connected in any direct way. Similarly, the new use for open spaces in the city becomes a part of Bart Lootsma's argument for maintaining a productive, healthy and sustainable city. Lootsma, as an architectural historian and critic, uses the example of the New York City waterfront, where the recent opening of the waterfronts provide connectivity to the city fabric and allow for higher and denser types of living in certain areas — adding value to the city.

Viewing public spaces as paradoxical space provides further insight into how these spaces generate and sustain identity. In the book: Open - New designs for public space, Linda Pollak considers the evolving role and definition of program in the design of urban spaces. Pollak addresses the difficulty in programming public spaces due to their complexity and the designer's inability to accurately control the outcome. Using Henri Lefevbre's analysis of the contradictions of the built environment, which according to Lefevbre, produce a "space of differences," Pollak addresses spaces that are in tension due to the cooperation or conflict between natural and social forces.

The effort put forth by these architects, politicians and citizens illustrates the possibility of creating public space in several unconventional ways. Since fewer and fewer parks and civic squares are being erected in North American cities, we must consider alternative ways to create public space as we program our cities. If we simultaneously consider public space as we build our cities, we can create a variety of unique spaces that take on a vernacular nature from their context. The need for continuous open space in a dense city is central to each author's argument. Providing undefined open spaces that link throughout the city can be seen as a new approach to how public spaces can improve North American cities — by providing not only movement and connectivity throughout the urban core, but also a space in which to live.

2.3 Urban Planning through Architecture

The lack of new spaces that promote pedestrian and environmental movement in the North American city as well as promote public use is one of the many matters of concern expressed in the book edited by Bernard Tschumi: The state of architecture at the beginning of the 21st century. The issue regarding public space and the potential role of architecture in addressing this issue is presented through a range of contemporary 'manifestos' by Bernard Tschumi, Zaha Hadid, Wolf Prix, Saskia Sassen and Winy Mass, who were among 60 of the world's leading architectural designers, historians, theorists and critics who gathered for a conference at Columbia University

on March 28 and 29 in 2003. As the architectural profession becomes more and more celebrated through “titanium temples of culture and translucent masterpieces that appear ubiquitous” (Tschumi, 2003, p. 7), several members in the architectural community are asking, in opposition, “will we mourn the death of public space and the disappearance of progressive social programs” (Tschumi, 2003, p. 7).

The gradual privatization of public space in western cities is having a profound effect on contemporary architecture as a whole. Faced with a lack of public funds, cities and local authorities are increasingly unable to play an active role in urban planning; instead, private investors and developers help themselves to the largest and best pieces of land in the city. According to his essay ‘b5 2 c6: public space’, Prix believes that “architecture will end up as infrastructure built to maximize profits within the global economy” (Prix, 2003, p. 18). He goes on to say that architecture can resist this instrumentalization by becoming an agent of a new philosophy of urban planning: “Conversely, without architecture, urban planning may soon cease to exist; the master plan is dead” (Prix, 2003, p. 18). By master plan, Prix refers to the 19th-century plan where gridded and idealized public space promised a public city, such as New York City’s public parks. Prix goes on to argue that in wake of today’s complex city, “this process of creating new public space is infinitely more complex than laying down a grid and filling it up square by square with architecture … space is no longer predetermined but rather developed through the tensions and relationships between figures” (Prix, 2003, p. 18). This is what he bases his new vigorous model of urbanism. This flexibility reflects Maas’s new urbanism through architecture that can supply an infinite variety of spaces, where some are public.

This agenda has shaped the recent work of Coop Himmelb(l)au. The UFA Cinema Centre (1993-98) in Dresden Germany (Fig. 2.3.1) is one of several projects that attempt to create public space through architecture. “The model of building as object is replaced by the idea of an urban transistor — an architecture that is capable of amplifying the urban spaces adjoining it through its own transistor-like spatial organization” (Prix, 2003, p. 18). The theatre box was raised to allow a public passageway to connect two key city spaces below. The UFA Cinema Centre represents a new paradigm of spatial definition: the free configurations of three-dimensional figures and the over arching cover that unites them.

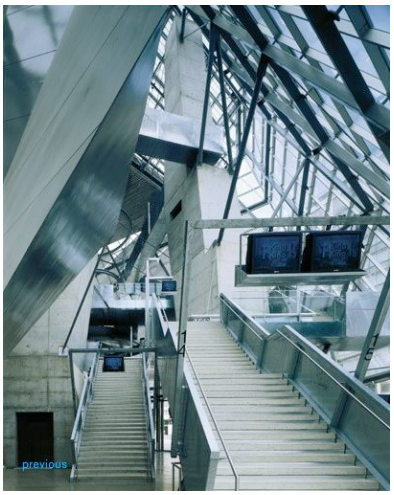


Figure 2.3.1 UFA Cinema Center & Figure 2.3.2 Entertainment Center (Retrieved from http://www.coop-himmelblau.at/site/)

In successive projects, Himmelb(l)au developed this paradigm further, particularly for the entertainment centre in Guadalajara, Mexico (Fig. 2.3.2). The envelope is opened up to reveal the landscape of sculptural volumes inside. The cinemas are liberated and serve as individual, space-forming elements. As described by Prix, the space-cover is a planer roof that floats over the ground like a flying carpet. Unlike the traditional urban typology of public squares and piazzas, where the facades of the surrounding buildings serve to define the public space, at Guadalajara, the street walls are rotated 90 degrees to form two horizontal planes: a bottom level located 11 metres below grade and the flying carpet above (Prix, 2003, p. 18). The 'empty spaces' sandwiched between the two levels are flexible public space, which are open to interpretation. In other words, the sides are left open to allow the building to interact with its context like a transistor, while the flow of movement animates the architecture.

2.4 The Nolli Map of Rome as Precedent

The Nolli map of Rome (Fig. 2.4.1), illustrated by architect and surveyor Giambattista Nolli in 1748, is regarded by scholars and cartographers as one of the most important historical documents of Rome. As presented by Jim Tice in his essay 'The Nolli map and urban theory', La Pianta di Roma (meaning 'The Great Plan of Rome') is an iconographic map that presents the city with an exactitude that allows one to immediately compare size, position and shape. The map not only records the streets, squares and public urban spaces of Rome, but carefully renders hundreds of building interiors with detailed plans.

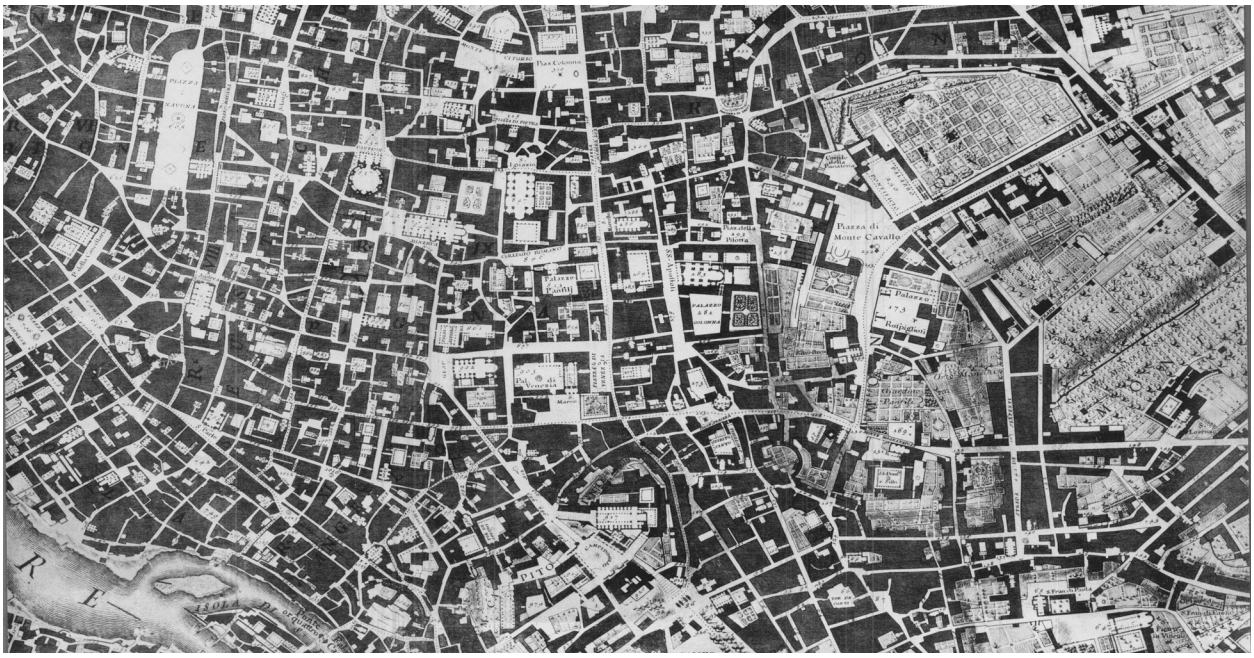


Figure 2.4.1 - The Nolli Map of Rome (Retrieved from http://nolli.uoregon.edu/map/index.html)

The Nolli map provides an immediate and intuitive understanding of the city's urban form through the simple yet effective graphic method of rendering solids as a dark grey hatch and rendering voids as white. "The city, thus conceived as an enormous mass that has been 'carved' away to create 'outdoor' rooms is rendered intelligible and vivid through this simple graphic convention" (Tice, 2005). The idea of solid/void is closely related to the idea of figure/ground. As explained by Tice, in Rome, public or semi-public space possesses a distinct and identifiable character, whether it is a church interior, palace courtyard or public urban space. The Piazza Navona, for example, is easily identified as a "figural" element in the city, with the surrounding buildings acting as a field or 'ground' into which the element has been placed, or rather, carved away. In contrast, "the modern city reverses this conceptual reading so that building is always seen as active figural object while space is imagined (if at all) as a kind of recessive, formless ether or receptacle that provides the setting for the object" (Tice, 2005). In Rome, however, solid and void readings have the capacity to be interpreted as either figure or ground.

The evolution of the city and its formal and spatial structure, therefore, is seen not as a static proposition but rather as a dynamic, highly charged and even volatile discourse of competing pressures, issues, needs and desires — both in urban and human terms. During the last half of the 20th century, architects and urban designers have shown a renewed interest in what the Nolli map has to offer, leading to new urban theories and a model for the study of all cities. As observed in Nolli's map of Rome, public spaces can help define a city's character and overall sense of form.

By rendering interior public rooms white, these spaces become continuous with the street and squares, which are also rendered in white. By reading the interior of civic and religious buildings as part of the city's outdoor spaces, all of a sudden Rome seems much more open and public. This diagrammatic tactic by Nolli illustrates the dominance of a network of public space in the ancient city.

Religious and civic buildings have been known to provide open public spaces that facilitate accessibility through the city and a place for the masses to gather and celebrate or protest. Historically, ancient cities like Miletus, proposed by Hippodamus, were organized by dividing the land into three distinct areas: sacred, public and private spaces were laid out over a diamond grid, giving prominence to the spatial form of the sacred and public spaces throughout the city. As opposed to private dwellings, which are mainly located along the diamond grid, the map of Miletus illustrates how the sacred and public spaces provide continuity through the city, creating a network of open spaces that connect sacred, public and private areas to one another. The plan is further strengthened with the centrality of the sacred and public spaces within the overall city form. As these spaces spread out towards the edges of the city, they become integrated into the city's fabric. By providing continuous spaces for sacred and public functions, the ancient city can continue to grow while maintaining a large amount of accessible open space.

The Nolli map of Rome has inspired many contemporary urban theories such as Flow Urbanism, Integral Urbanism and Landscape Urbanism. The majority of these theories advocate continuous networks of open space throughout the contemporary city — a concept illustrated nearly three centuries ago by Nolli. However, such a strong network of public spaces presented in the Nolli map was primarily due to the sheer number of churches, squares and civic halls. Unfortunately, in North American cities today, we do not have the same governmental support for a master plan favouring public space. As discussed above, our public spaces now come incrementally. Thus, as our cities grow one building at a time, we must simultaneously design for public space in every project, in the hope that all these individual spaces will create an overall network of continuous public space.

Re-imagining the contemporary City

3.1 Heterotopia and Flow Urbanism

The concept of Heterotopia, introduced by French sociologist Michel Foucault, gives insight into the nature of private and public spaces. Heterotopia, as defined by Lieven De Cauter and Michiel Dehaene in the book: Heterotopia and the city (2008), is composed of places and spaces that "interrupt the apparent continuity and normality of ordinary everyday space" (p. 4). These heterotopias, literally meaning 'other places,' can be conceptualized between completely private and public spaces. This 'third space', as defined by Cauter and Dehaene, is neither political (public) nor economical (private), but hieratic, concerned more with cultural spaces that are required by religion, arts, sports and leisure. Of interest is the association of play to the concept of Heterotopia. The authors argue that if public space is seen as a medium for action — to force agendas, voice opinions — and private space is used to produce work and labour, then heterotopian space — one that mediates between the public and private — allows for a more creative element of the human condition.

A concern with incorporating the postmodern city's flux and mutability has emerged as a strategy for generating structure and form in recent urban architecture. The interest in pursuing formal strategies related to the dynamics of the city has engendered the projection of socially integrative spaces, called Conceptual Heterotopias of Flows. Works by firms such as UN Studio, Foreign Office Architects, MVRDV and OMA, among others, have engaged with the architectural potentials of 'datascapes.' The Yokohama Port Terminal designed by Foreign Office Architects (FOA) in 2002 and the Arnhem Central interchange by UN Studio in 2007 explore urbanism of flows,

or Flow Urbanism — both framed by their designers as ‘smooth spaces’ of urban mobility that generate new forms of public space (Stickells, 2008, p. 247).

The Yokohama Port Terminal is a hybrid: it provides facilities for an international ferry terminal as well as a public park and other civic programs. Arnhem Central is a complex transport exchange that integrates railway stations, bus terminals, parking, office and residential development, as well as pedestrian and cycle paths. The formal objectives for both projects contain continuous social spaces. As described by Lee Stickells in his essay: Flow Urbanism, “the projects can be read as heterotopias that attempt to refocus the public life of the city (normally associated with the square, the piazza, the static place) within spaces of intense movement” (Stickells, 2008, p. 247). According to Stickells, the formal and affective attributes of the projects prompt the exploration of their positioning as integrative urban gestures — Flow Urbanism — as well as some of the inherent tensions and potentials involved in their relationship with existing city structures.

The idea of mobility is particularly important to the discussion on heterotopias of flow This is because unimpeded flow can be considered as a liberating and productive new way of experiencing the city. At Yokohama, circulation patterns shape space, an approach that repositions the city’s spaces of flow as key contemporary public spaces, superseding the static, representational space of the town square. As stated by Stickells, “The Yokohama Port Terminal proposed the space of travel, of mobility, as the new locus of public life” (Stickells, 2008, p. 248). In defining their practice, FOA argued “where static [sic] enclosures and gates determined in the past as qualities of building in cities, dynamics, flow, connections and bifurcations have become the core of the contemporary urban phenomenology” (FOA, 2003, p. 190). The Yokohama terminal and Arnhem interchange suggest an urban condition very much akin to the idea of ‘smooth space’ as outlined by Deleuze and Guattari: The concept of smooth space describes a spatial ordering defined by traversal and encounter rather than the static qualities of spaces that become objectified (Stickells, 2008, p. 255).

The strategies of flow outlined in the projects are concerned with networking movement and event. However, while the role of urban space is projected as the integration of hybrid programs and the intensification of occupation, according to Stickells, the precise relationship between form and intensity within Flow Urbanism remains unfocused. “Rather than architectural forms being committed to determining a kind of social affect, the impact of the formal strategies and spatial dynamics remains ambivalent: much depends on the process of programming and the possibilities for disruptive, heterogeneous occupation of site … the affective qualities of Flow

Urbanism seem more uncertain" (Stickells, 2008, p. 251). Another critical concern expressed by Stickells for the projects is the apparently declining relevance and power of figurative, symbolic urban architecture. It is important that the flows, — the parameters, and programming of these projects — works in conjunction with architectural form (Stickells, 2008, p. 256).

Ultimately, flow urbanism still provides useful tools for exploring new typologies of public space. The speculation concerning density of encounter, individual versus mass movement, and spatial intimacy and expansion is presented through new public ground surfaces that aspire to intensify a sense of urbanity (Stickells, 2008, p. 256). As heterotopian spaces that are neither street nor plaza, "they also represent a way of giving primacy to movement networks and thus demonstrate a potential to contribute to wider discussions of urban sustainability" (Stickells, 2008, p. 256).

3.2 Integral Urbanism

As ecological success is measured by the capacity of our planet to support all life forms, urban design success, according to Nan Ellin, should be measured by its capacity to support humanity. As presented in her book Integral urbanism, Ellin proposes a new urban movement that aims to heal wounds inflicted upon the landscape by the modern and postmodern eras as manifested in visually unappealing places, impoverishment of public space, diminished sense of place and sense of community, and environmental degradation. To accomplish this, Integral Urbanism demonstrates five qualities: Hybridity, connectivity, porosity, authenticity and vulnerability (Ellin, 2006, p. 2). Hybridity and connectivity encourage activities and people to come together, treating people and nature as symbiotic — as well as building and landscape — rather than oppositional. Porosity encourages mutual access of nature and people through permeable membranes rather than the modernist attempt to dismantle boundaries or create postmodern fortification.

In architecture and urban planning, a revolution has been taking place aiming to heal the wounds inflicted upon the landscape by the modern and postmodern eras. These wounds are manifested as sprawl, the growing perception of fear, a declining sense of community and environmental degradation. This design revolution, according to Ellin, "is quiet because these practitioners are not unified under a singular banner; nonetheless, numerous stones have been thrown around the globe, and their still small but growing ripples are beginning to reshape dramatically our physical environment while enhancing our quality of life" (Ellin, 2006, p. 1).

Over the last century, urban development has treated the city as a machine for efficiently sheltering and for moving people, money and goods. According to Ellin, the city-as-machine

approach usually resulted in master building upon a tabula rasa, or clean slate. “Integral Urbanism veers away from master planning, which, in its focus, controls everything [and] ironically tends to generate fragmented cities without soul or character; instead, Integral Urbanism proposes more punctual interventions that have a tentacular or domino effect, catalyzing other interventions in an ongoing dynamic process” (Ellin, 2006, p. 11). Ellin further explains that if master planning were a form of surgery on an anaesthetized city, Integral Urbanism might be a form of acupuncture on a fully alert and engaged city; by opening up blockages along ‘urban medians’ (Ellin, 2006, p. 11).

In contrast to modernism that bespoke of aspirations for control and perfection, Integral Urbanism suggests the importance of connectedness and dynamism. The models are an “emphasis on reintegration (functional, social, disciplinary and professional), on permeable membranes, and on design with movement in mind, both movements through space (circulation) and through time (dynamism, flexibility)” (Ellin, 2006, p. 12). The ultimate goal of Integral Urbanism, according to Ellin, is to achieve flow. For places to be in flow, they must embody the five qualities mentioned above, so that together these qualities can create a shift from emphasizing isolated objects and separating functions to considering larger contexts and multifunctional places.

Ellin draws inspiration from ecological design when discussing Integral Urbanism. The ecological design approach as described by Barbara Crisp attempts to reconnect mind and body, fostering a sense of place and time and true well-being. To accomplish these, ecological designers have been advocating ‘integral design,’ ‘integral systems’ and bio-mimicry’ (Jane Jacobs, the nature of economies). Learning from nature and aspiring to design in a way that supports it, “these approaches emphasize the importance of permeable membranes, system diversity, and the ability to be self-adjusting and always evolving” (Ellin, 2006, p. 11).

In urban design, the parallel shift from central city model to the polycentric or integrated model was first marked by Christopher Alexander’s article “The City is Not a Tree” (1965), which demonstrates the flaw of understanding the city in terms of mathematical models. The tree means hierarchy. Alexander emphasized that “cities are not hierarchies, and when planners believe they are, they produce the horrors of planned towns with road hierarchies, business areas and useless open space” (Turner, 1996, p. 22). These considerations led Alexander to argue against artificial cities and to be in favour of organic cities. He stated that cities are semi-lattice structures, not tree structures. Alexander concludes, “A city is not a tree. It is not even an object. It is a set of landscapes” (Turner, 1996, p. 22).

At the same time, according to Ellin, we have been witnessing a widespread call for substituting feminine for traditionally masculine values — or at least redressing the balance. John

Logan and Todd Swanstrom propose replacing “the masculine metaphor of cutthroat competition for mobile capitol” with “a more feminine image of nurturing the strength of the local context” of “economic development based on embeddedness” (Logan & Swanstrom, 1990, p. 21). Rachel Sara writes in her award-winning article “The Pink Book” that “the old conception of architecture has a masculine bias; the movement for change is fundamentally feminizing … the new paradigm values qualities traditionally considered feminine such as empathy and collaboration, community and evolution, holism and versatility, negotiation and enabling, emotion, experience and responsiveness” (Sara, 2002, p. 130).

3.3 Landscape Urbanism

The call for a new urbanism that considers landscape in relation to building and city, as advocated by the aforementioned, has been considered in The Landscape Urbanism Reader. Landscape Urbanism is the realization that landscape architecture, architecture and infrastructure are connected and should be visualized and realized holistically. This book, edited by Charles Waldheim, suggests that neither building nor land should take precedent over the other; in fact they should work together as an integrated system. In his introduction to the book, Waldheim suggests that “landscape has become both the lens through which the contemporary city is represented and the medium through which it is constructed” (Waldheim, 2006, p. 011).

James Corner is a major contributor to the Landscape Urbanism movement, and his work is often cited in the essays presented in the book by various authors. Corner presents what he defines as the core of Landscape Urbanism. This includes: 1. Process over time — that processes are much more significant for shaping urban relationships than are spatial forms; and 2. Horizontal surfaces — this addresses the current interest in surfaces, where roofs and grounds become one and the same, thereby blurring the separation between landscape and building. It also speaks to what is known as ‘performative urbanism’ in which an area is prepared for programmed and unprogrammed spaces, so that it can have multiple social functions. These concepts promote the layering of landscape and building, as opposed to conventional methods of arrangements such as building and square, where building and landscape are laid horizontally side by side.

Landscape architecture and urbanism are growing closer together within a common field of work: the one of ‘cities without cities’ that Thomas Sieverts calls ‘Zwischenstadt’ in the book: Territories, from landscape to city. This Zwischenstadt, defined as ‘city landscape,’ is an intentionally fuzzy concept: Does it indicate a new form of landscape or a new form of ‘city’? According to Sieverts, no further growth can just spread out; rather we must re-construct and

transform what is there in such a way that it can be read.

In Territories, from landscape to city, Lisa Diedrich believes that “landscape architecture is a discipline capable of resolving the lack of direction of contemporary urbanism, while offering structure and materiality to the dispersed city” (Diedrich, 2009, p. 9). According to Diedrich, the landscape is in a position to give concrete answers, where debate on urban sprawl looks set to occupy the minds of urban planners and architects in the years to come. This is the view expressed in the preface by Thomas Sieverts’ Cities without cities: An interpretation of the Zwischenstadt.

Diedrich questions the practicality of The Landscape Urbanism Reader by Waldheim and she believes that “it was more of a theoretical approach than a tried-and-true professional practice” (Diedrich, 2009, p. 9), and argues that, while Waldheim and Corner recently introduced this theory in North America, in Europe the urban question has been at the centre of landscape thought and practice for so long that, as far as Europeans are concerned, landscape already includes urbanism. The strength of European thought on the subject of landscape architecture and urban planning, according to Diedrich, “rests on a tradition that rejects ‘Landscape Urbanism’ as a notion because it implies that ‘landscape’ and ‘urbanism’ are somehow equal” (Diedrich, 2009, p. 9). In opposition to the North American concept of landscape urbanism, Diedrich states that “here (in Europe), the profession leans towards a form of urbanism that is dominated by the landscape; we therefore prefer to talk about ‘landscape-oriented urbanism’ — and to see the landscape as the line of force of urbanism” (Diedrich, 2009, p. 10).

3.4 Architecture and Landscape

To be a successful theory, Landscape Urbanism must not only be applicable to the overall city plan, as suggested in The landscape urbanism reader, but also in smaller scales such as single building typologies, as illustrated in the book: Landscapers — Building with the land, by Aaron Betsky. The illustrated text is a compilation of recent architectural projects and essays that look at the integration of building and land through the architectural project. For the book’s participating architects, architecture is the thoughtful gathering of what already exists to reveal the nature of a place.

In the past decade, governments in European countries have made an effort to make buildings more responsive to the landscape, arguing against recent North American traditions of landscaping buildings by placing a green roof on skyscrapers. “If the roof is made out of grass, why not make it habitable? To do so, there should be a relationship, preferably direct and physical, with the land around the structure” (Betsky, 2002, p. 8). The sloping roof of the central library in

Delft (1992-97) (Fig. 5), as designed by the Dutch firm Mecanoo, provides this relationship.

Aaron Betsky argues that “architecture in this sense is not the making of something new, but the reformation of what already exists on a form that accepts the mark of human intervention” (Betsky, 2002, p. 9). The foundation for this thought was laid by a group of mainly French and German thinkers in the 1960s. The approach was introduced in American and European academies in the 1980s through the teachings of Gilles Deleuse and Felix Guattari. The rediscovery of major thinkers, including Martin Heidegger, also played a part. The notion of thinking as presented in Landscapers is as follows: “The land should not be accepted as a given. Rather it is an active text or texture that can set the stage (the language or the site) for the work. The work (whether in words or stones) should be considered as an attempt to elaborate, criticize or deform the land.” According to Betsky, novels are a reformulation of language, just as buildings are reassemblies of building materials and forms, not new inventions. For architects this means that their work is an unfolding of the text of the land” (Betsky, p. 9).

Ultimately, the book tries to stress the importance of buildings that embody the landscaper concept, for they give back the land they occupy. By making us aware of the ground we inhabit, we can regain a sense of reality of “place in a culture that is more and more independent on the abstraction engendered by the mass production of real and virtual spaces, instant communication, and digital manipulation” (Betsky, 2002, p. 192). The idea behind Landscapers is one that considers growth in building and open landscape simultaneously. It considers some of the issues presented in the book Compact cities and sustainable urban development, edited by Gert de Roo and Donald Miller.

3.5 Rethinking Architecture as Landscape

Creating new relationships between natural landscapes and built forms is the topic of discussion in “On the Surface of the Earth: In Search of the Chorographic Body,” Marie-Ange Brayer’s (2003) introductory essay in the book: Archilab’s Earth Buildings. Brayer argues that while one can work with the earth — penetrating it, occupying it and living on it — one can only view a landscape — never being able to inhabit it. The detachment of the inhabitant from the landscape produces the same paradox that characterizes many architectural experiences, where the built form and the landscape it is situated in are removed from one another. Brayer uses 16th-century landscape art as examples of how painting and cartography intermingle with each other and create chorographic representations where a liminal region is situated between earth and landscape, between body and representation.

The chorographic view, according to Brayer, absorbs whole into part and produces charting of the earth, a domesticated morphology of the landscape. Giving tangibility to the landscape can provide a new way to designing within expansive settings. Using the Yokohama terminal as an example (Fig. 3.5.1), Brayer states that the project develops a tectonic floor that is like an extension of the earth's surface — a surface with differential curves like the artificial undulations of a chorographic landscape, simultaneously local and global. While projects such as the Yokohama terminal clearly represent large forms at the edges of cities, there is a lack of how the chorographic view can be applied to smaller, more compact forms within the dense urban fabric. The push towards chorographical bodies is central to Brayer's essay as a new way to mediate between intangible landscapes and the ground that is manipulated. Re-evaluating how building is situated and formed within a landscape can produce a chorographical body, one that provides an architecture that is both landscape and built form, existing as one entity.

Figure 3.5.1 - Yokohama Ferry Terminal (Retrieved from http://architourist.pbworks.com/f/1130447720/ferry-terminal2.jpg)

Within the same book, Manual Gausa (2003) also provides a new way of relating landscape to architecture in his essay "Architecture is (now) Geography." As urban structures become increasingly complex, hybridized and heterodox, Gausa believes that the challenge lies in creating meeting-places — and not confrontations — between the old, self-contained categories: nature and artifice, architecture and landscape, town and territory, construction and environment (p. 40). Shifting the framework from 'object architectures' to 'environmental architectures,' Gausa associates the latter with a new understanding of 'place' (and space in general) as a "field of forces — open and plural — and no longer with a fixed and stabilized context (historical, typological, figurative, etc.)" (Gausa, 2003, p. 40). According to Gausa, these new environmental

architectures will not only provide ‘fields of relations’ but also a ‘narrative setting,’ a ‘panorama’ or a ‘spectacle’ of territory.

The landscape, as Gausa states, will not only become a setting for movement, an open, indeterminate space, but additionally a ‘territory of observations’ of reality itself (Gausa, 2003, p. 41). As these environmental architectures combine events, realities, messages and layers of superimposed and interactive information, Gausa believes that it would no longer be a matter of diluting oneself in or imposing oneself on nature, but of creating a different type of nature that would integrate artificially all its moments and movements. As the title of his essay implies, the more that landscape is ‘architectured,’ as Gausa proposes, with new topological formations and organizations — folding, unfolding, refolding, cutting, reliefs, networks, counter-currents — the more ‘landscaped’ architecture would become (by transplanting the organic and synthetic codes — and the themes of insertions, infiltrations, incorporations, jumbles, mixtures and impressions). The integration of ‘architecturing’ landscapes, so that architecture can become landscaped, proposes a unique way to look at how urban form can take on natural systems, even if it is still artificial in its process and construction.

Envelope and public space

4.1 Urbanizing Architecture

In his essay "Towards an urbanistic architecture," Winy Maas advocates for a new architecture that incorporates urbanism as a tool for planning growth, migration, specialization, mobility and climate. He references new international competitions that merge urbanism with architecture to create more accessible cities, such as the World Trade Centre competition in New York. For the competition, many architects from different backgrounds and rival camps, including Winy Maas's firm MVRDV, came up with similar themes: towers that branch, kiss, split and hover, all "aspiring for an urban life higher up" (Maas, 2003, p. 14). They all embrace increasing densities, growth and a future city inhabited by more people. This lateral typology of taking urbanism from the ground plane up and through the vertical axis allows for architecture to take a proactive step in extending the urban public domain from the horizontal plane. The act of merging urbanism with architecture blurs the territory between architecture, infrastructure and the public domain and creates a new type of architecture.

In continuation with Maas's 'Urbanistic Architecture,' a method to handle the growth of and migration to metropolitan centres may suggest a new kind of urbanism and architecture, such as structures that accommodate different programmatic functions in shifts. This "flexibility will be important; the neutral plan may appear again" (Maas, 2003, p. 14). As metropolitan areas grow and alter their needs, "a lighter approach to urbanism will need to be invented, one that allows for change in large parts of the environment, such as turning cities back into agriculture or natural area" (Maas, 2003, p. 15). Promoting flexibility

in land use can support contemporary interests in urban agriculture, for example, and encourage food production in urban centres. Flexible urbanism that can change back and forth from rural to urban settings, according to Maas, can further support new green landscapes in the city.

The work of Rem Koolhaas also embodies an urbanistic approach to architecture. In the essay "Urbanizing Architecture" from the book: Becoming Places, Kim Dovey explores urbanistic theories and projects set forth by Rem Koolhaas. According to Dovey, Koolhaas can be interpreted as resuscitating the early modernist imperative to develop architecture of social relevance through a mix of programmatic and formal change. "Programmatic innovations include the production of fields of social encounter, new functional juxtapositions and forms of spatial segmentation designed to resist social reproduction and enable certain freedoms" (Dovey, 2009, p. 103).

Continuing Koolhaas' new functional juxtapositions of program in Open: New designs for public space, Pollak (2004) considers the evolving role and definition of program in the design of urban spaces. Pollak addresses the difficulty in programming public spaces due to their complexity and the designer's inability to accurately control the outcome. Using Henri Lefevbre's analysis of the contradictions of the built environment, which according to Lefevbre, produce a "space of differences," Pollak addresses spaces that are in tension due to the cooperation or conflict between natural and social forces.

Despite the difficulty in developing program for public spaces, Pollak argues that one approach to this challenge is through the construction of a spatial heterogeneity, which can support or bring about change within itself. The example of Vito Acconci's Island in the Mur is composed of a playground and a theatre and creates juxtaposition that helps to construct its dynamic identity. Pollak argues that the disturbance of one space by another creates an intensified energy that is greater than the sum of its parts. The use of two seemingly unrelated activities beside one another create paradoxical spaces that, while on their own may provide limited opportunities for creating and sustaining identity, together create a dynamic identity that enhances the vitality of the space.

Koolhaas seeks an architecture that encourages an eruption of events, social encounters and opportunities for action. He works towards a spatial structure that allows a multiplicity of choices for pedestrian flow and encounter. "Koolhaas wants to liquefy rigid programming into non-specific flows and events … to weave together exterior, interior, vestigial and primary spaces into a frank differential matrix that adds the building of the hackneyed bourgeois niceties of cosmetic hierarchies" (Kipinis, 1998, p. 26). Koolhaas imports the randomness of social encounter from exterior urban space into interior space. He calls these "interiors as 'fields of play' or 'artificial landscapes,' which dissolve the boundary between inside and outside, between architecture and

metropolis" (Dovey, 2009, p. 105). Such spaces are functionally open and visually transparent to maximize social encounter.

Dovey draws a connection between Koolhaas and what Stan Allen (1997) suggests is a shift in architectural thinking from a focus on the architectural object to a focus on field relations that parallel the development of field theory in mathematics. According to Allen, "systems with 'permeable boundaries, flexible internal relationships, multiple pathways and fluid hierarchies' are capable of responding to emerging complexities of new urban contexts" (Allen, 1997, p. 24). A major innovation in Koolhaas' work lies in the extent to which he has utilized such strategies in the interiors of buildings where they contribute towards the emergence of new kinds of social place. For Dovey, the larger picture presented by Koolhaas can be seen as an urbanization of architecture. "Urbanity can be defined as an assemblage that produces a high intensity of encounter with difference … this random encounter is what grants public space its key role in identity formation" (Dovey, 2009, p. 122).

4.2 Envelope as Mediator

As discussed above, several opportunities exist to regain public landscapes in the city through architecture. By being a unique private/public entity, architecture has the power to use its envelope (its public interface) to create a new public domain. As discussed by Bernard Tschumi in his introductory essay "Envelope + Public/Private" in the book The state of architecture at the beginning of the 21st century, the envelope, or the exterior skin of a building, is one of architecture's most fundamental components. The envelope refers to a clouded and overlapping set of conditions — including access (open versus closed), ownership (state versus individual), law and social domains (commercial versus domestic) — which makes the attempt to define the public and private through architecture loaded and complex (Tschumi, 2003, p. 63). This raises the question: with many recent innovations in building enclosures such as high-tech structures to double envelopes, how will the envelope in the 21st century differ from its predecessors? Will the need for new public space and depleting open green space in the city encourage a new type of envelope?

Bernard Tschumi observes the envelope as a site of social relationships. He demonstrates how "envelopes, when integrated with program, movement and context, can materialize concepts" (Tschumi, 2003, p. 63). Extending Tschumi's line of inquiry, K. Michael Hays theorizes that architects can "begin to understand the new envelopes in relation to their social context, which includes new construction technologies" (Tschumi, 2003, p. 63). These theories for the

new envelope are explored through the works of three prominent architects, Zaha Hadid, Rem Koolhaas and Mark Rakatansky. For Zaha, the building seamlessly integrates envelope, form, structure and program while blurring the distinction between the private and public space, such as the Wolfsburg Science Centre in Germany. For Koolhaas, the skyscraper is the typology of public and private, where the envelope functions as a social interface. Finally, Mark Rakatansky focuses on the role of the building envelope as a kind of map — “a chart of the social and other dynamics at play in a work of architecture” (Tschumi, 2003, p. 63).

In his essay “Envelope Please,” Mark Rakatansky draws inspiration from the veins in the human hand for the complex differential articulations of the building envelope. He imagines the structural, infrastructural, programmatic, typological, informational, material mappings appearing in architecture as inflective and inflected systems, emerging and disappearing. Similar to the concepts presented by Bernard Tshumi, the building envelope, like a map, creates a dialogue between what’s inside and outside, and, according to Rakatansky, has the ability to reveal this tension neither collapsing into each other nor remaining entirely separate. He argues that architects today control whether buildings are supposed to be open or closed, inside out or outside in, attentive or distracted, public or private, to a point where all imagination and creativity is removed. Instead, he sees buildings “on the verge of, in the midst of, thinking out loud about their decisions — allowing buildings to perform their differential decision-ing, their differential enveloping” (Rakatansky, 2003, p. 76).

4.3 Envelope: Movement through Porosity

In thinking about the role of the building envelope in separating public and private, Zaha Hadid believes the notion of the boundary is critical. One idea that Hadid has been exploring in recent projects is porosity: drawing public space into a building’s interior to make a series of public rooms. This is partly in response to her place of work in London England, “where buildings tend to be fortified and public spaces come about by accident rather than by design” (Hadid, 2003, p. 71), a condition very similar to many North American cities such as Toronto. For Hadid, “porosity suggests a new kind of urbanism, composed of streams or flows of movement that cut through the city fabric” (Hadid, 2003, p. 71). A ‘porous’ architecture presented here allows for infinite views and paths of travel for the city and its inhabitants, becoming a transistor as advocated by Wolf Prix and following Maas’s notion of an ‘urbanistic architecture.’

In Hadid’s Phaeno Science Centre in Wolfsburg, Germany (Fig. 4.3.1), “multiple threads of pedestrian and vehicular movement are pulled through an artificial landscape and into the

building, creating intersecting paths of movement" (Hadid, 2003, p. 71). The ground level of the building is in large degree transparent and porous and serves as an outdoor public plaza. The main volume of the building sits above this public space, where large craters bring the visitors up to the museum. "These large craters form a family of spaces, a continuous landscape in which the distinctions between skin and structure, public and private, are eroded" (Hadid, 2003, p. 71).

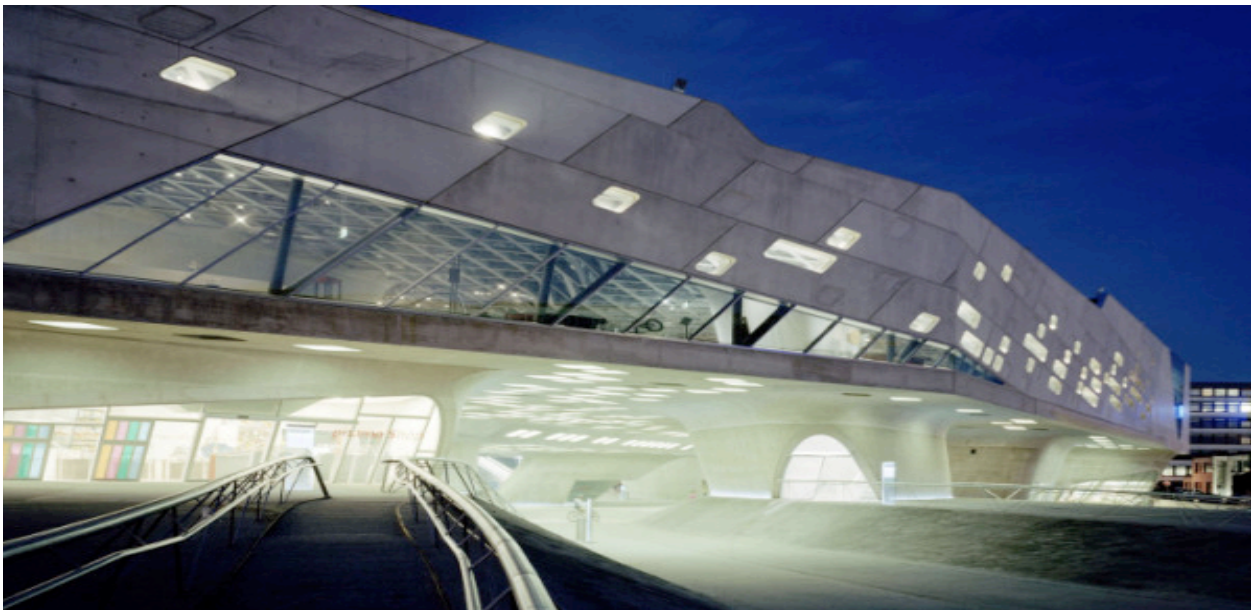


Figure 4.3.1 - The Phaeno Science Centre, Wolfsburg Germany (Retrieved from http://offcite.org/wp-content/uploads/2008/12/phaeno.jpg)

Architecture and public space: Case Studies

5.1 Le Corbusier

Initial attempts to integrate landscape within the building envelope can be seen in the domestic works of Le Corbusier; which has set the precedents for many contemporary architects today who design with landscape and public space in mind. This chapter presents a collection of case studies on buildings that have significantly incorporated public space in their design. They have been organized based on two design parti's, initially explored by Le Corbusier in his Five Points in Architecture: 'Table Top' Architecture (Point 1: the pilotis) and 'Blanket Architecture' (Point 5: the roof garden) (Fig. 5.1.2). Even though the two parti's are inverses of one another, they have one important element in common; they extend the public domain through the *ground plane*. This chapter explores the two different ways in which architects have incorporated public space as a continuation of the ground plane through architecture by either lifting the buildings off grade or by extending the public landscape over the building. Each project will be analyzed and critiqued based on its public space parti, pedestrian/public accessibility and circulation, environmental circulation, scale, and overall building-to-landscape connection.

Le Corbusier established his concept of the dwelling as standardized, mass-produced and serviceable, like the modern car (Gans, 2006, p. 2). The five points for a new architecture allowed for a system with practical advantages such as spatial and formal flexibility. This domestic prototype allowed light and air to be penetrated everywhere, as well as direct contact with the surrounding landscape, which is achieved through various openings. Le Corbusier designed several houses in which each incorporated some or

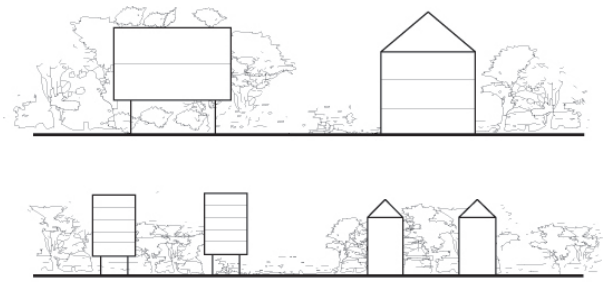


Figure 5.1.1 - 5 Points of Architecture

all of his five points; however, almost all the houses incorporated the pilotis concept.

Maison Cook (Fig. 5.1.2) in Boulogne-sur-Seine employed all the five points set out by Le Corbusier. The building is raised off the ground on pilotis, which frees the ground for vehicular and pedestrian circulation. The roof garden or terrace is an open space that is clearly established as a public domestic space. Having assured himself of the five points in the design of the Maison Cook, Le Corbusier was about to explore further possibilities of the system in Villa Stein (Fig. 5.1.3), which he built at Garches in 1927. Again, pilotis support a part of the ground floor to create a hollowed-out, two-storey outdoor cubes. Freely curved partitions are placed on every floor, with a 'Golden Section' system of facade design and a roof garden on top. The villa was another contribution towards Le Corbusier's central objective, which was to create prototypes for a vertical city. Villa Stein possessed sculptured stairs, suspended entrance canopies and long, uninterrupted ribbon windows. Also, both its short end walls are blank, or almost blank, as Garches was designed again as a unit in a

Figure 5.1.2 - Maison Cook (Retrieved from Google Images)

Figure 5.1.3 - Model of Villa Stein (Retrieved from http://farm4.static.flickr.com/3310/3248467068_904b208a30.jpg)

Villa Savoye was revealed the same architectural language of Villa Stein, but rearranged in a slightly different way. The villa was also the realization of the 'five points.' As well as demonstrating these, it also has other characteristic elements such as the entrance ramp (which cuts through the middle of the grid), the curving walls of the solarium, and the pilotis and slab construction. Once inside the ground floor, one can promenade through either by using a ramp or a curving staircase.

These domestic prototypes serve as a good case study for this thesis as they illustrate, in simple terms, how landscape can

be integrated through a building's fifth and sixth facades (top and bottom). The lateral layering of landscape and building, which are explored in these early domestic projects by Le Corbusier, has spawned a whole new movement towards landscape-integrated buildings in urban city centres that don't have the luxury of vast horizontal space.

Having explored the five points on a small domestic scale, Le Corbusier tested his new philosophy on a much larger building type, Unité de Habitation (Fig. 5.1.4). The housing complex located in Marseille, France, employed all the new points in architecture as his villas, with a greater emphasis on communal public space. The mass housing comprises 337 apartments over 12 storeys, all suspended on large piloti. The footprint in which the building occupies the land is replaced by a landscaped public terrace on the roof, matching the same area covered on grade. This open space is in addition to the raised ground floor that allows the landscape to continue through the building.

Figure 5.1.4 - Unite de Habitation (Retrieved from http://farm4.static.flickr.com/3107/2749452600_6f0fbcccaf.jpg?v=0)

Some of the characteristics of Unité de Habitation have been used in contemporary condominium buildings throughout North America today. The roof top amenity has been used as a staple method of providing public amenity space for the condo residents. Unfortunately, as in the case with Unité, rooftop amenity spaces are still private for the building residents and thus have no relationship to grade. In the case of Unité, however, the open ground floor provides some passage and connection to the public ground plane, a strategy ignored by contemporary condominium buildings today.

5.2 Table Top Architecture

5.2.1 The Sharp Centre

The points established by Le Corbusier has set precedents for many contemporary architects. The use of the piloti has allowed architects to reveal the once hidden fifth and sixth building façade. The 'Table Top' typology is perhaps most evident in the work of Will Alsop for the Sharp Centre (Fig. 5.2.1) in Toronto, Canada. The building, nicknamed the 'Table Top' (Polo, 2004), takes a bold stance on the importance of open public space by lifting the building upwards to preserve a small neighborhood park. Built in a very dense area in downtown Toronto, the Sharp Centre provides a critique on a new form of infill that is aware of issues of congestion, public space, environment and pedestrian circulation.

The success of the building lies in the preservation of a public park on the ground floor that continues the public ground plane from McCaul Street from the east to a larger public park on the west. The height in which

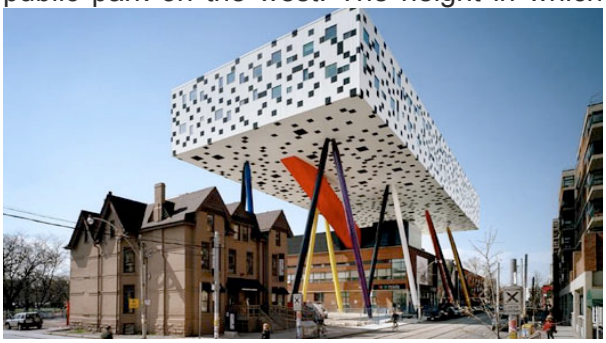


Figure 5.2.1 - Sharp Centre (OCAD) (Retrieved from http://www.arcspace.com/architects/alsop/sharp_center/1ocad.jpg)

the building is lifted allows for light and air to penetrate the space, thus creating an almost entirely open space. Along with environmental circulation, visual sightlines are made possible between neighboring buildings. The failures of the project lie in the quality of public space created. The building's disconnectedness with the public space underneath provides for no proper sheltering from rain and snow in the winter months. The table top typology typically has all six sides of the building exposed, a condition not typically suitable for a northern climate.

5.2.2 Peckham Library

The building-on-stilts is something of a recurring motif for Alsop, who's Peckham Library (Fig. 5.2.2) in London also includes a large component elevated above the ground plane. The public space created at Peckham is slightly more successful due to its L-shaped

Figure 5.2.2 - Peckham Library (Retrieved from http://thelunaticarms.files.wordpress.com/2009/10/pecklib460279-glow.jpg)

configuration, which provides a closer connection between building and public space. The public space here can benefit from a more defined enclosure, which can provide for a more comfortable environment in London's winter months.

It is difficult not to see the influence of Alsop's exposure as a student at London's Architectural Association to the various members of Archigram and to Cedric Price. In the article "Suspended Animation," Marco Polo believes, "The Sharp Centre seems to owe a particular debt to Ron Herron's Walking City, the OCAD addition's dynamically angled stilts seeming poised to march down McCaul Street towards Queen West" (Polo, 2004). According to Polo, the Sharp Centre shares Archigram's signature wit, treating architecture less as a venerable, precious artifact than as an opportunity for a bit of fun.

5.2.3 The Museum of the Primary Arts

Similar to Alsop's OCAD table top, Rudy Ricciotti's proposal for The Museum of

the Primary Arts (Fig. 5.2.3) consists of an entire city block raised on stilts six storeys high. To offset the span of this monolithic form, cavities are cut vertically through the mass, bringing down light and views to the public ground plane from the sky hidden above the museum. Above the large collection room, the roof offers a large accessible terrace; where a garden surrounds the building, filling the entire

Figure 5.2.3 - The Museum of Primary Arts (Retrieved from Ricciotti, 2001, p. 390)

5.2.4 Aomori Prefectural Art Museum

Similar themes can be seen in the Aomori Prefectural Art Museum (Fig. 5.2.4) by SVA + Sachiko Miyazaki Architects, where the design of the museum is based on the effects of permeability. The museum is placed under a shelter compound consisting of five plates with round holes. Permeable slabs enable penetration and manipulation of daylight into two basement floors. View and light move through the five overlaid platforms forming the building, filtering inside and working their way from one floor to another by way of a host of round apertures. In the horizontal landscape made up of these platforms, these holes open up an infinite array of vertical permeable elements. The actual museum occupies three of five platforms, with two buried underground and one suspended above the ground. Between the two, an intermediate space is left free, allowing the natural ground to pass through the museum and, with it, wind, snow and strolling visitors. Nature also resolutely inhabits the exterior of the museum by means of this permeability — here horizontally (Brayer, 2003, p. x).

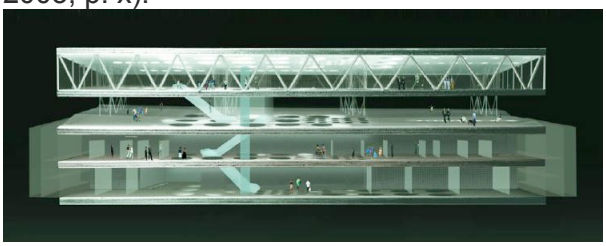


Figure 5.2.4 - Aomori Prefectural Art Museum (Retrieved from http://www.sadarvuga.com/common/picture.php?pid=45&width=630)

5.2.5 Taipei Performing Arts Centre

NL Architects also heavily integrate public space in their designs. Their unique table tops embody the same characteristics of some of the projects mentioned previously, but are much more complex in program and design. The design of the Taipei Performing Arts Centre (Fig. 5.2.5) is aimed at making the building accessible to everybody. The public character of the centre is guaranteed by the elevation of a substantial part of its program, creating a public square underneath it; as such the square becomes part of the building inside (nl Architects, 2009). As described in an article in Design boom, inside the building is an elevated fragment of the city, a public

browsing space where cultural facilities such as a multimedia library, music stores, galleries, lobbies, bars, restaurants and clubs will be included (Design boom, 2009).

Figure 5.2.5 - Taipei Arts Centre (Retrieved from http://cmuarch2013.files.wordpress.com/2009/05/taipei-performing-art-center2.jpg)

The public space in the Taipei Performing Arts Centre is successful because it is a continuation of the public ground plane, which means that city residents can easily access the place as a means of getting around in the city or as a place to dwell. The enclosed table top provides shelter from heavy rain, wind and sun while still allowing in a desirable amount of light and air. The multiple balconies provide for an intimate place to linger, while the various levels provide a variety of options.

5.2.6 Groninger Forum

Similar to their proposal above, nl Architects proposed another unique table top, Groninger Forum (Fig. 5.2.6), a civic building in Groninger, Netherlands. The Forum also aims to make the building accessible to the public through a vertical urban platform. This table top with two legs continues the public domain through its open ground floor. The core and circulation of the building is celebrated and exposed — not your typical “form follows function” but more of a “form follows getting to the function” (Dezeen.com). By forcing all the circulation outside, a forum is created, where the public can access this space.

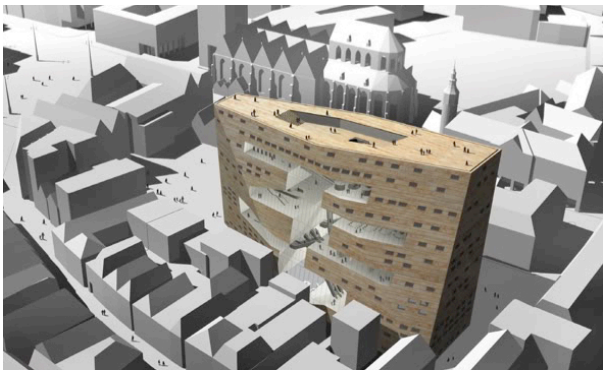


Figure 5.2.6 - Groninger Forum (Retrieved from http://2.bp.blogspot.com/_ScdnDt-ZTeI/RcN4YzItJVI/AAAAAAAAADg/XrZTL4p37jY/s400/groninger-forum.jpg)

5.2.7 Thermal Bridge, Northern Style Housing

While table tops provide for a good opportunity to open the ground floor for public access, the space that they do provide, depending on how the building envelopes the space, can be underutilized due to cold climate conditions. This is an issue that was tackled in a project called Thermal Bridge (Fig. 5.2.7) by Eric Bunge and Mimi Hoang. The design is in response to the problem of underutilized open landscapes in northern Japan. The table top consists of a continuous canopy that encloses the public space. It acts as a thermal mass, thus raising the temperature of the outdoor space by 25 degrees. This design

appropriates landscape-oriented architecture for cold climates, a strategy that can be applied in Canada and many other northern countries.

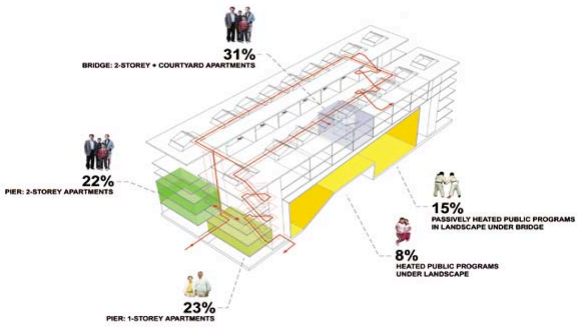


Figure 5.2.7 - Thermal Bridge, Northern Style Housing (Retrieved from http://www.narchitects.com/frameset-aomori.html)

5.3 Blanket Architecture

The second group of projects explored in this thesis falls under Blanket Architecture, a new take on Le Corbusier's fifth point for a new architecture, the roof garden. For Le Corbusier, the roof garden provided for public open space for the residents of his buildings, such as the private rooftop in Villa Savoye or the communal rooftop amenity for the residents of Unité de Habitation. While his roof gardens were very simple in parti and quite limited in terms of public accessibility and visibility, contemporary architects today have redesigned the rooftop as the extension of the public ground plane. The following case studies are some of the ways in which the building envelope can provide for public space.

5.3.1 Roof House

Located in the suburbs of Tokyo, the Roof House (Fig. 5.3.1) designed by Takaharu Tezuka shares the living spaces between the ground floor and the entire roof. By maintaining a simple plan and utilizing a lightweight, yet earthquake responsive structure, the house provides a visually and tactilely generous space for the family. The thin roof, timber columns and structural plywood panels allow for a flexible, partitioned space and open the view through the house and into the nearby valley and Mt. Kobo (Brayer, 2003).

Figure 5.3.1 - Roof House (Retrieved from http://2.bp.blogspot.com/_UOJWFiCdVqU/ShUhtqiQZgI/.jpg)

The partitioned spaces are organized with eight skylights above each room. By climbing up the ladders that can be leaned against the ledges of each skylight, the living space extends into the rooftop and merges with the outside. These eight skylights make the rooftop accessible to every room and everyone. With a freestanding wall to break the wind and provide privacy, the rooftop can provide for a comfortable atmosphere. The one- to 10-sloped pitched roof provides a comfortable and identical slope to that of the original topography and has a low roof edge to further connect the roof life to the garden life, such as easily handing over barbecues

from the garden (Brayer, 2003). This free-flow experience and usable space not only bonds the family life with nature and the surroundings but also brings rejuvenation to the neighborhood.

5.3.2 Delft University Library

The library at Delft University (Fig. 5.3.2) by Mecanoo Architects is perhaps one of the first landscraper buildings that started the movement towards integrating buildings with landscape. The library sits like a huge frog in the green grass, where the vast lawn is lifted on one edge like a sheet of paper and shapes the roof of the new library. The gentle slope of the grass roof is freely accessible for walking and lounging, creating a new amenity for the whole campus. Winter activities are also considered in the design, where tobogganing and skiing are enjoyed by students.

Figure 5.3.2 - Delft University Library (Retrieved from http://www.galinsky.com/buildings/delftuniversitylibrary/entrance.jpg)

The density of the mass of the planted roof has significant insulating properties, so that the interior of the building is less susceptible to changes in temperature. In addition, the mass provides excellent soundproofing and the gradual evaporation of rainwater held by the vegetation provides natural cooling in the summer. To avoid disfiguring the roof landscape with mechanical cooling units and also for ecological reasons, cold storage — the capacity to store cold or heat in ground water — is used below grade. The sustainable attributes of this building and its winter and summer uses make this building successful; however, In terms of overall context to building connectivity, the building does little for continuing the public ground plane beyond its limits. The Delft Library can be seen as a destination point, thus limiting the number of people using the roof on a daily basis. To make the slope of the green roof accessible, a large amount of space is needed and thus can only be accommodated in a suburban context.

5.3.3 Maritime Youth House

Bjarke Ingels Group (BIG) Architects is another emerging firm that heavily incorporates public space in its projects. For its work on the Maritime Youth House (Fig. 4.3.3), by covering the site with a wooden deck, the firm created a public landscape of social functions. Two very different users had to share the facilities: a sailing club and a youth center. Both had conflicting requirements: the youth centre wanted outdoor space for the kids to play; the sailing club required most of the site to moor its boats. The building is the result of these two contradictory demands: The deck is elevated high enough to allow for boat storage underneath while providing an undulating

landscape for the kids to run and play above. This blanket design for the Youth House has therefore gained an additional 'room,' which is the wooden deck — it supports all the centre's programs, indoor and outdoor. This blanket slopes down to grade at point, connecting it to the public ground plane.

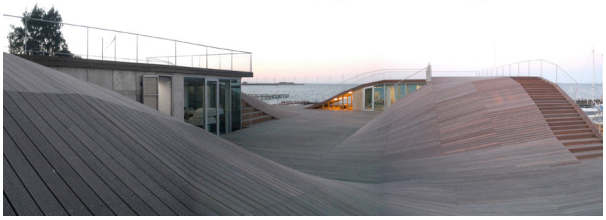


Figure 5.3.3 - Youth House (Retrieved from http://www.kanyeuniversecity.com/client_images/kanyewest.jpg)

5.3.4 Housing/Retail/Public

Similar to this project, Housing/Retail/Public (Fig. 5.3.4) consists of a blanket that extends to and from the public ground plane. The project is an addition to an existing residential block, where instead of just completing the existing block; BIG decided to prolong the end walls in one smooth movement, turning end walls into public courtyards and public courtyards into end walls. This allows housing and existing functions to be combined with new public recreational areas and visionary architecture. The publicly accessible roofscape acts as an urban blanket that promotes circulation and recreational open space.

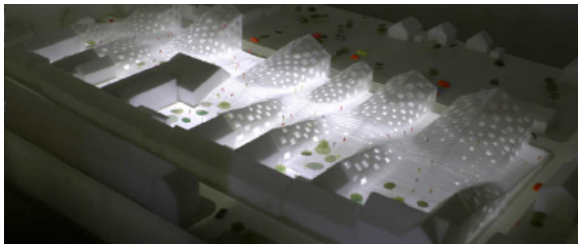


Figure 5.3.4 -Housing/Retail/Public (Retrieved from http://www.big.dk/big.html)

5.3.5 High Square

BIG architects is in the midst of designing a new breed of public spaces in Copenhagen. The city will receive a 3000 m2 of public amenity space on top of Magasin du Nord, a large department store in the heart of the city, called High Square (Fig. 5.3.5). The square is an oasis that will combine the benefits of space, air and unprecedented views with a highly urban program, including an outdoor cinema, a drop-off for cars and taxis, cycle routes, cafes and a stage (www.BIG.com). The sequence of spaces is orchestrated as a cascade of squares that runs down the building all the way onto the sidewalks and neighboring squares. However, access to the square from the public ground plane is through a set of escalators, which make this building inaccessible and invisible to the human eye on grade.

5.3.6 Israel's Square

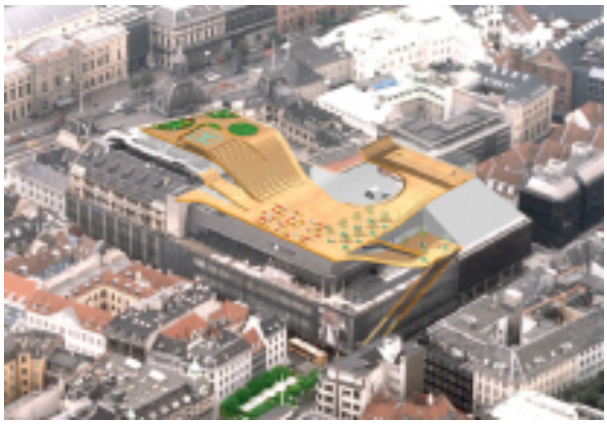


Figure 5.3.5 -High Square (Retrieved from http://www.big.dk/big.html)

In addition to High Square, a new public space called Israel's Square (Fig. 5.3.6) in Copenhagen will become the setting of a new covered market. The market section has been lowered to create visual links to all sides of the square through the density of life and trading. At the same time, the pillars of the roof construction organize the area in small separate and intimate spaces. A green layer of trees and plants will be established on the rooftop and elevators, and steps make the city space continue from the market to a roof garden cafe.

5.3.7 Yokohama Ferry Terminal

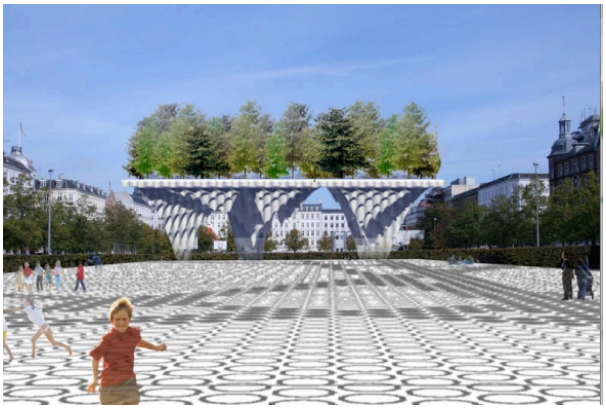


Figure 5.3.6 -Israel Square (Retrieved from http://www.big.dk/big.html)

The Yokohama Ferry Terminal (Fig. 5.3.7), designed by Foreign Office Architects (FOA), is perhaps one of the most published and celebrated landscape-oriented buildings of contemporary architecture. The site played a pivotal role: thus declared a public space, it presents Yokohama City with a continuous structure of open public spaces along the waterfront. According to a statement by FOA, its proposal for the project started by declaring the site as an open public space and the roof of the building as an open plaza, continuous with the surface of Yamashita Park as well as Akaranega Park. The project is generated from a circulation diagram that aspires to eliminate the linear structure characteristic of piers and the directionality of the circulation.

The relation between the building

Figure 5.3.7 -Yokohama Ferry Terminal (Retrieved from http://www.e-architect.co.uk/scotland/jpgs/riasconv03_FM_FerryTer.jpg)

envelope and the areas established by the structural folds of the surface is one of the most important arguments of the project in that the folded ground distributes the loads through the surfaces themselves, moving them diagonally to the ground. The articulation of the circulation system with the constructive system through this folded organization produces two distinct spatial qualities: the continuity of the exterior and the interior spaces; and the continuity between the different levels of the building (www.FOA.com). The Yokohama Ferry Terminal is one of a series of new landscape-oriented buildings designed with digital technology. It is through this new technology that architects can blur

the separation between walls and floors, inside and outside, where almost the entire building envelope is accessible and suitable for occupancy. This project illustrates the untapped potential of a building envelope, architecture's most fundamental component.

Blanket architecture is similar to Table Top architecture for simultaneous creation of public space and private program, but requires larger sites. In other words, this type is not as 'compact' as the table tops discussed earlier in this chapter. For the purpose of this thesis, which strives to learn from Landscape Urbanism and landscape buildings to create a new compact form for an urban context, a hybrid of the table top and blanket architecture styles is necessary.

5.3.8 Eyebeam Museum of Art and Technology

The work of Diller and Scofidio can be seen as a combination of the two styles, as seen in their proposal for the Eyebeam Museum of Art and Technology (Fig. 5.3.8). The spatial logic of the proposed building is based on a simple premise: a pliable ribbon that locates production to one side and presentation (museum/theatre) to the other. According to their description of the project on their website, www.dillerscofidio.com, this ribbon undulates from side to side as it climbs vertically from the street. The floor becomes wall, turns into floor, turns into wall, etc. With each change of direction, the ribbon enfolds a production

Figure 5.3.8 -Eybeam museum of art and technology (Retrieved from http://www.artnet.com/magazine/FEATURES/jsaltz/Images/saltz4-16-4.jpg)

space or a presentation space, alternately. The combining of program brings together two diverse populations: the building's residents (students, artists and staff) and the building's visitors (museum and theatregoers). The alternating programs require each population group to pass through the space of the other while moving between successive levels. The relationships become more intricate when a loop of ribbon at one level is sheared in half and slipped into alignment with a level above or below. The new alignment allows a production

space to infiltrate a presentation level, or vice versa. This controlled contamination juxtaposes technical processes with their effects — people at work with people at leisure; the prosaic with the poetic.

All of these projects (Table Top and Blanket) vary in the amount of public space they provide and how that space connects to the ground plane. What would make one more successful than the other is how much public space is created with respect to the building's footprint and how easily accessible that space is to the public. For the purpose of this thesis, where an acknowledgement is made of the need for density as well as open space, a compact typology of public and private space will be explored through the combination of table top and blanket architecture. To provide a critique on the case studies discussed above, the projects have been placed in a matrix where the designer can compare, combine and create new typologies. With all the building parti's organized in a chart, the designer has all the tools to formulate his or her equation for any specific site, by combining, adding or removing the parti's.

Urban Banyan

6.1 Introducing the Urban Banyan

A semblance of public space has evolved over time with vacant lots and back alleys of the post industrial core of many North American cities. With recent successful urban invigoration and intensification of the urban core in cities like Toronto, these vacant lots are being quickly developed for high rise, high density housing without providing adequate open space. Contemporary developments are large-scale and their effect as they meet the streets is a coarsening one. They increasingly take over entire city blocks, disrupting the fine grain of existing pedestrian networks that have developed over and between vacant sites (specifically in the Queen and King Streets area) Their single block–size podiums are oriented towards single–use corporate chain-type tenants like Shoppers Drug Mart, Home Depot and Winners that create a banal streetscape with their uniformity of character and use.

This thesis looks for new building typologies to restore this public domain within the existing development paradigm – where large multi-lot parcels are amalgamated and developed under a single development. This thesis seeks not only to restore public space within private development, but also to restore the connectivity that organically evolved over time in these areas. The vehicle for this investigation is in the south central west part of Toronto between Spadina to Bathurst Avenue running east-west and Queen to Wellington Street running north-south; where significant development pressure has already transformed the character and grain of this area.

This thesis proposes a new building typology: the ‘non-podium’, a negative space that would be the foundation of new high-rise

residential developments. This space would maintain and encourage a broader, richer, and more intricate public pedestrian network in the Queen Street West area. The freeing up of the ground plane for public amenity will create a truly public alternative to the internalized quasi-public mall (i.e. the Atrium on Bay and Eaton's Centre in Toronto) as it will be open and accessible 24-7. As well, it will provide an alternative type of space to larger-scale parks (at the waterfront, for instance) as the city is currently focusing its efforts on (hard) urban space rather than on (soft) park space. This new network of public space will invigorate the development of adjacent existing perimeter frontage as independent (rather than corporate) retail and commercial space, increasing adjacent land value. As well, the proposal reduces the existing typical Toronto oversized street block pattern to allow for a free pedestrian network. Even as it keeps in mind the City of Toronto's new density objectives and the accommodation of big-box retail below grade, this thesis affirms accessible public space as the hierarchical organizing figure for urban architecture.

The proposed urban architecture rotates the walls ninety degrees to form two horizontal planes: a bottom level below grade (to appropriatly accomodate the growing trend of big box retail in the urban core) and the flying carpet above. The space sandwhiched between the two levels is the public environment. The side are left open to allow it to not only be accessible and connect with existing pedestrian networks, but to allow it to interact with its surrounding like a transistor (a device capable of amplification - i.e. a conductor), and the space is animated inside with the constant flow of movement through it. The spatial markers (programmed columns) mark critical points where the flows are arrested, redirected and intensified. This thesis proposes the model of building as object to be replaced by the idea of an urban landscape, an architecture that is capable of amplifying the urban spaces ajdoining it through its own spatial organization.

The design parti was inspired by the form and public use of the Banyan tree native to india. They are frequently planted near homes, temples, villages, and roadsides. In most villages, the banyan tree provides a meeting place for the community. People gather in the shade of the banyan tree to relax, discuss issues, and make decisions. In fact, the name banyan is derived from merchants called Banias, who rested under the trees to discuss their strategies.

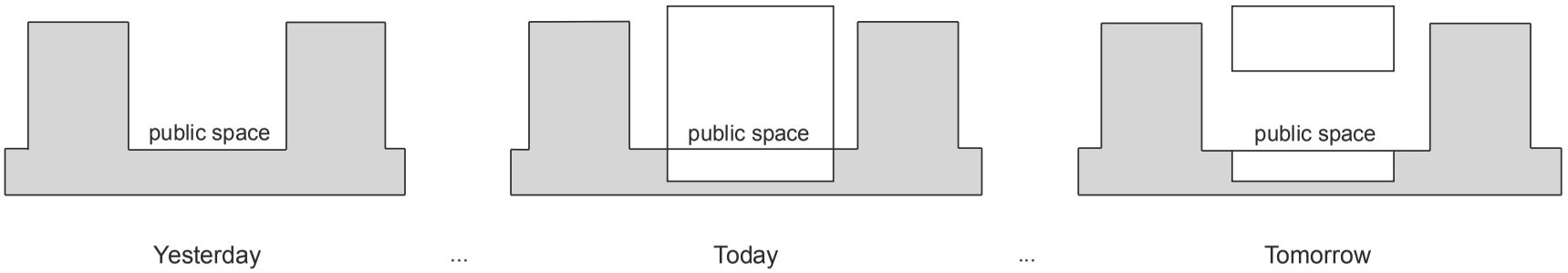


Figure 6.1.3 Thesis Parti

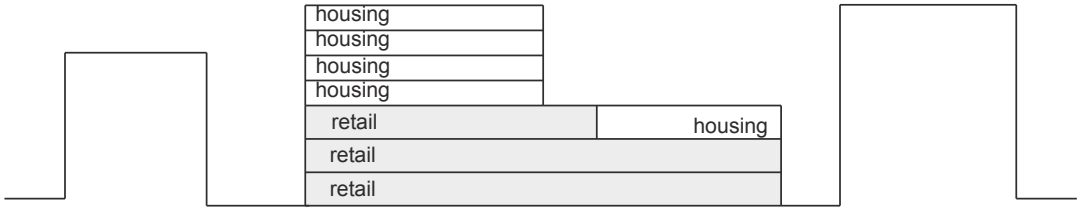


Figure 6.1.1 Existing building typology on Queen St. West

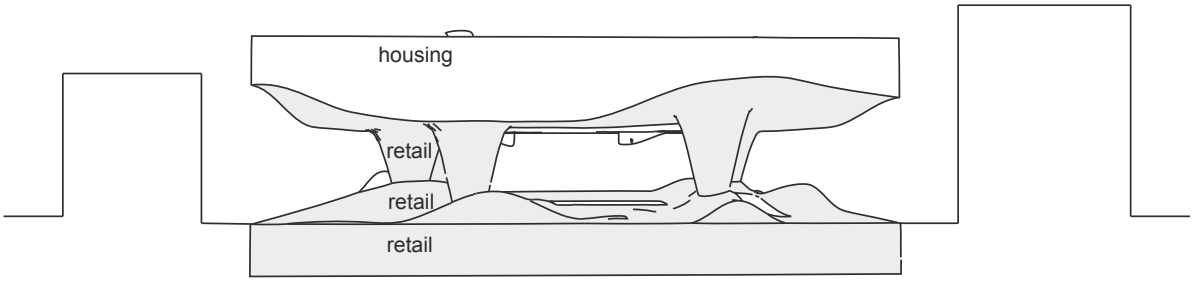


Figure 6.1.2 Proposed building typology on Queen St. West

6.2 South central west Toronto - Queen and King Street West, a unique site

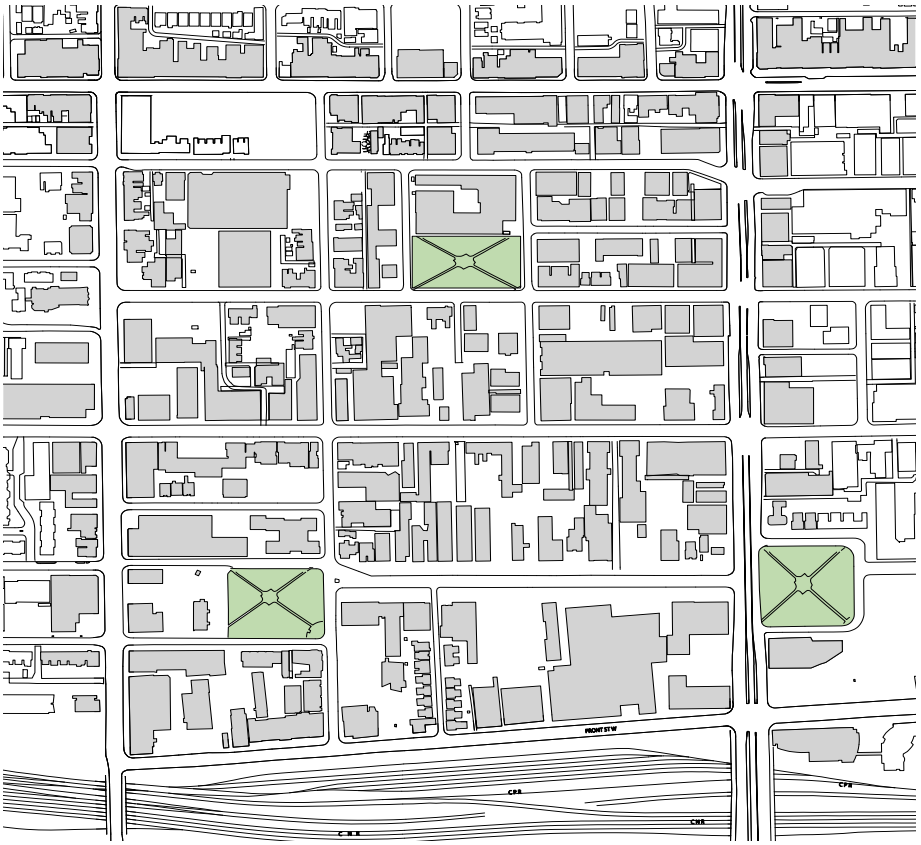


Figure 6.2.1 Site Map of Queen Street West

Figure 6.2.2 Linear vehicular movement on main streets (existing)

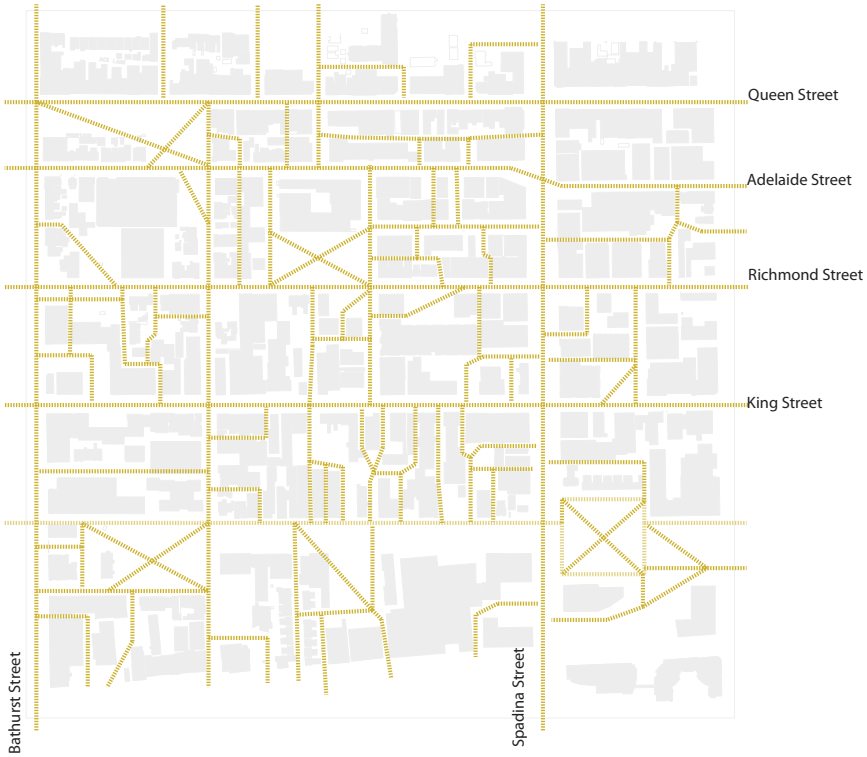


Figure 6.2.3 Organic pedestrian movement in open spaces (existing)

Figure 6.2.4 Figure ground illustrating existing openness of Queen Street West

Figure 6.2.5 Figure ground illustrating future condition of Queen Street West post conventional infill

Figure 6.2.6 Potential open spaces for new urban typology to be implemented

Figure 6.2.7 Potential pulbic space network through the combination of pedestrian streets and open spaces

6.3 Design

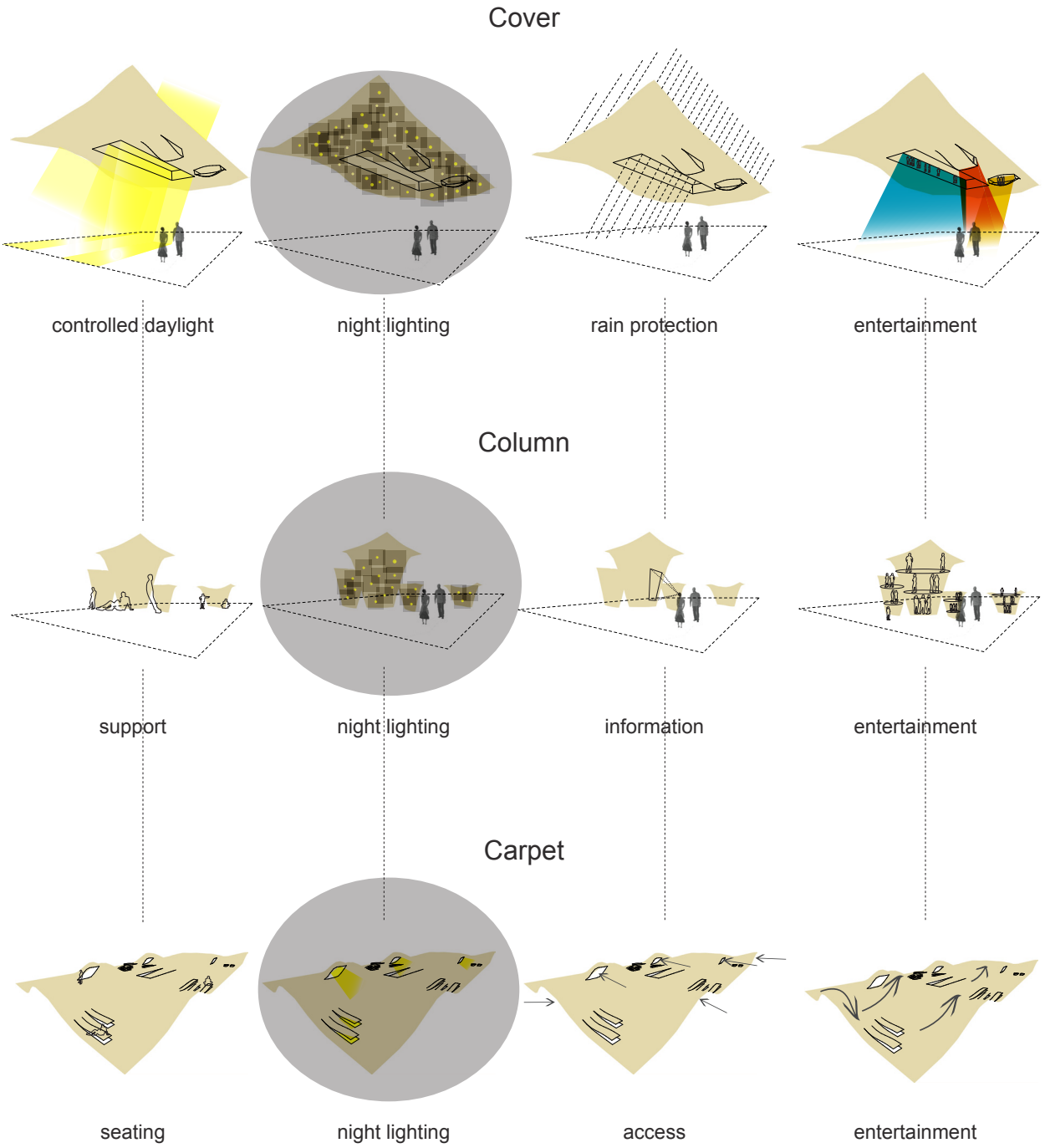


Figure 6.2.8 Site attributes influencing form

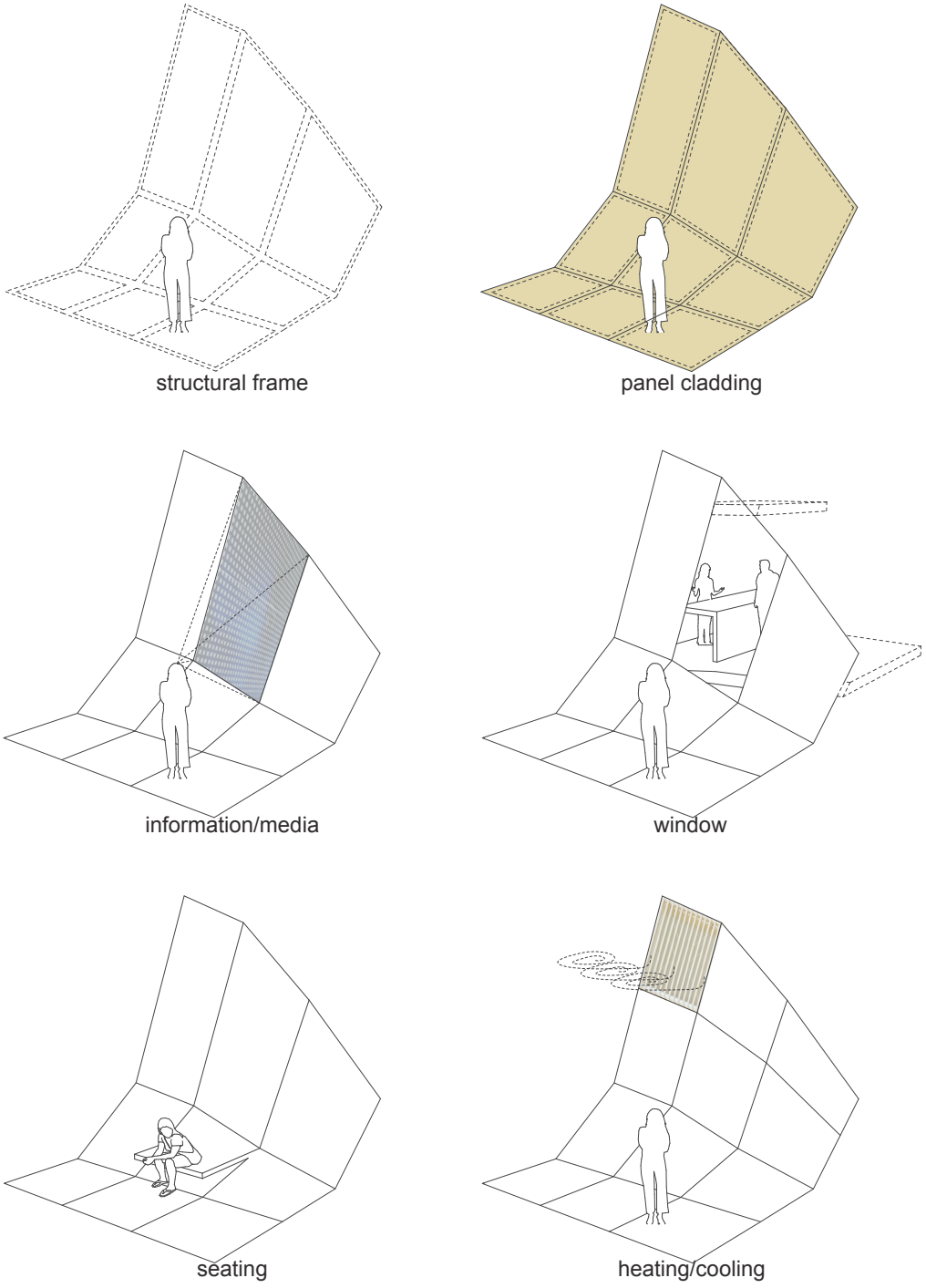
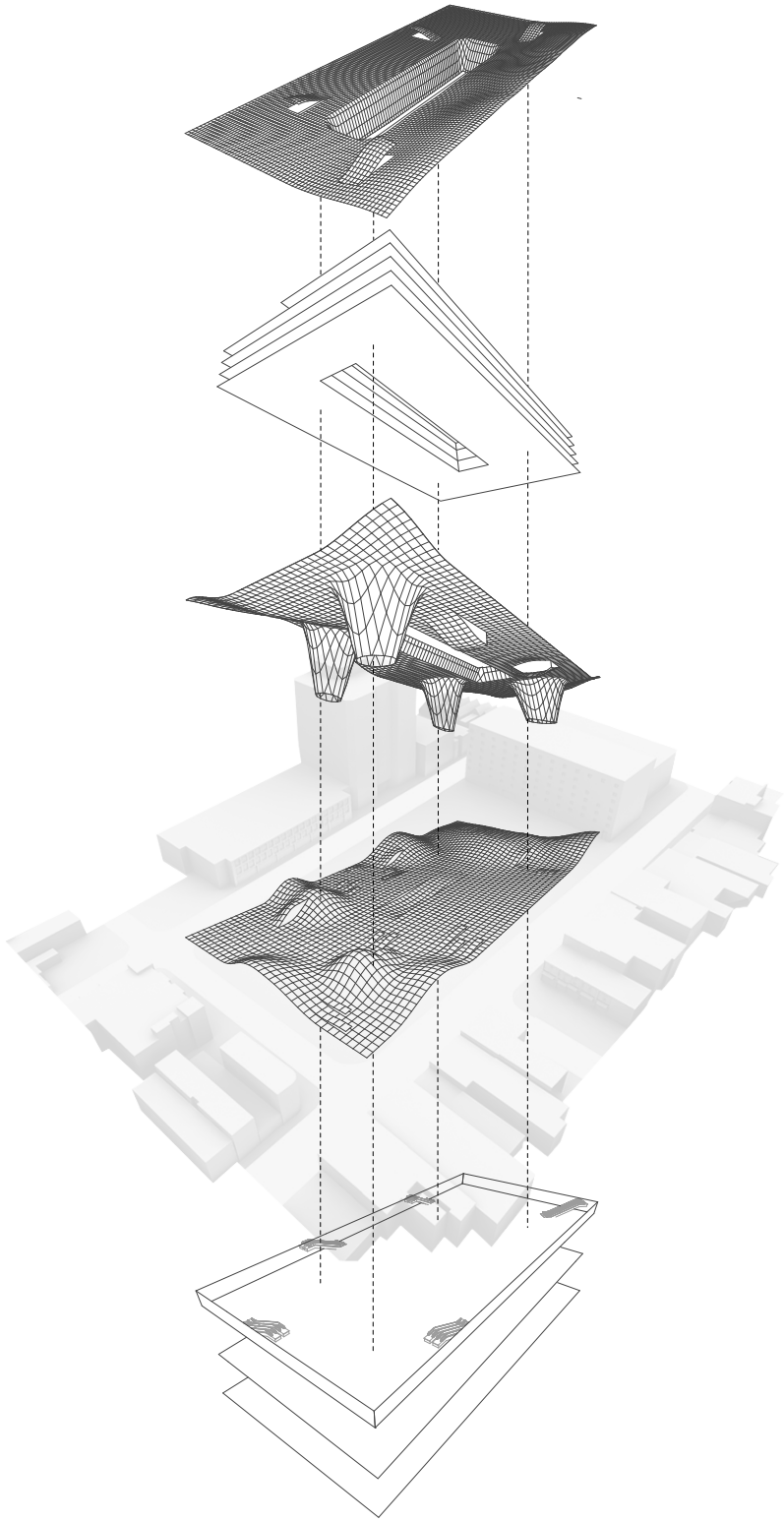


Figure 6.2.9 Interfacing with the building fabric



1. Roof

2. Housing

3. Flying Carpet with programmed columns for Restaurant/ Entertainment

4. Public Carpet

5. Big box retail

6. Parking/Services

Figure 6.2.10 Exploded Axonometric

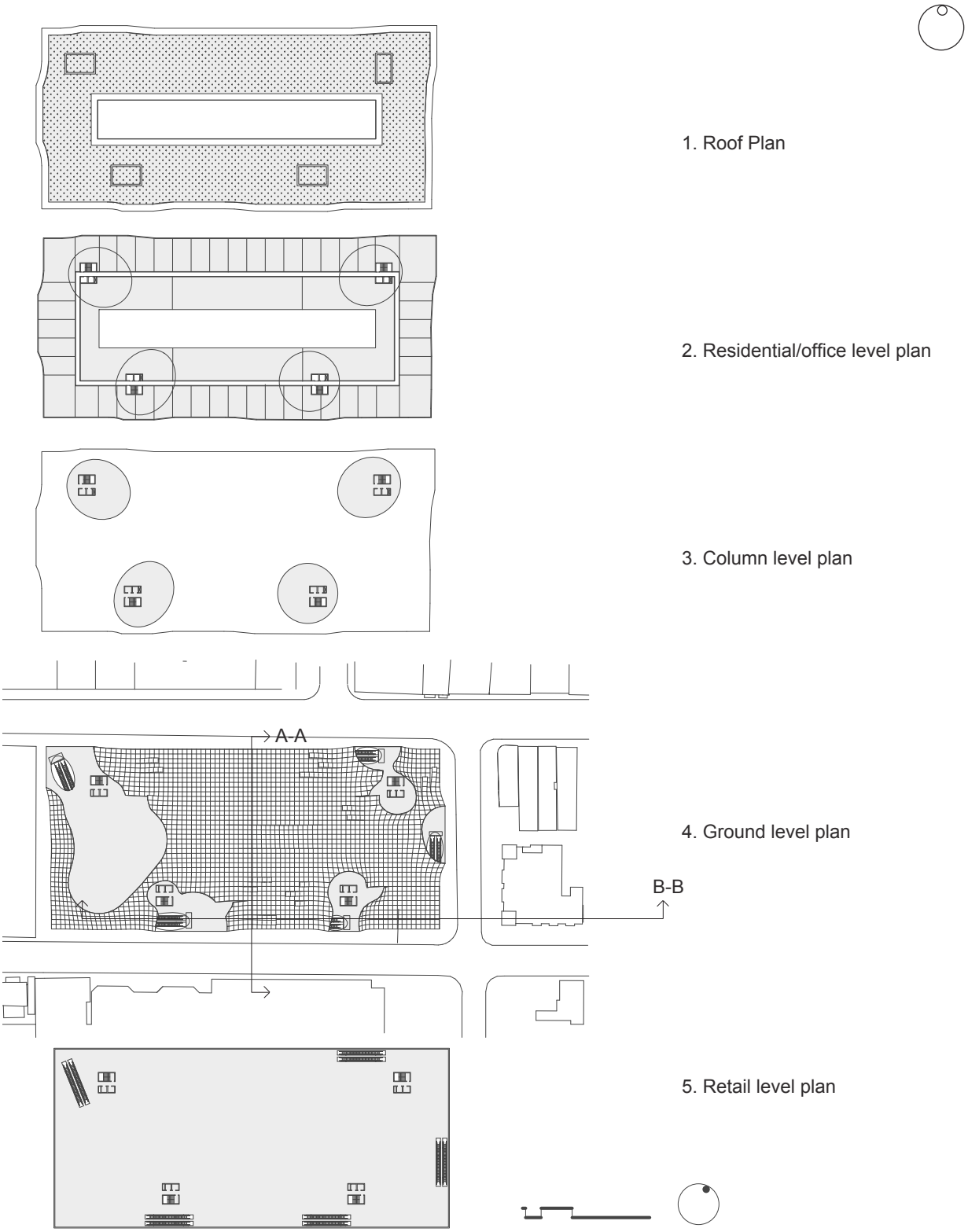
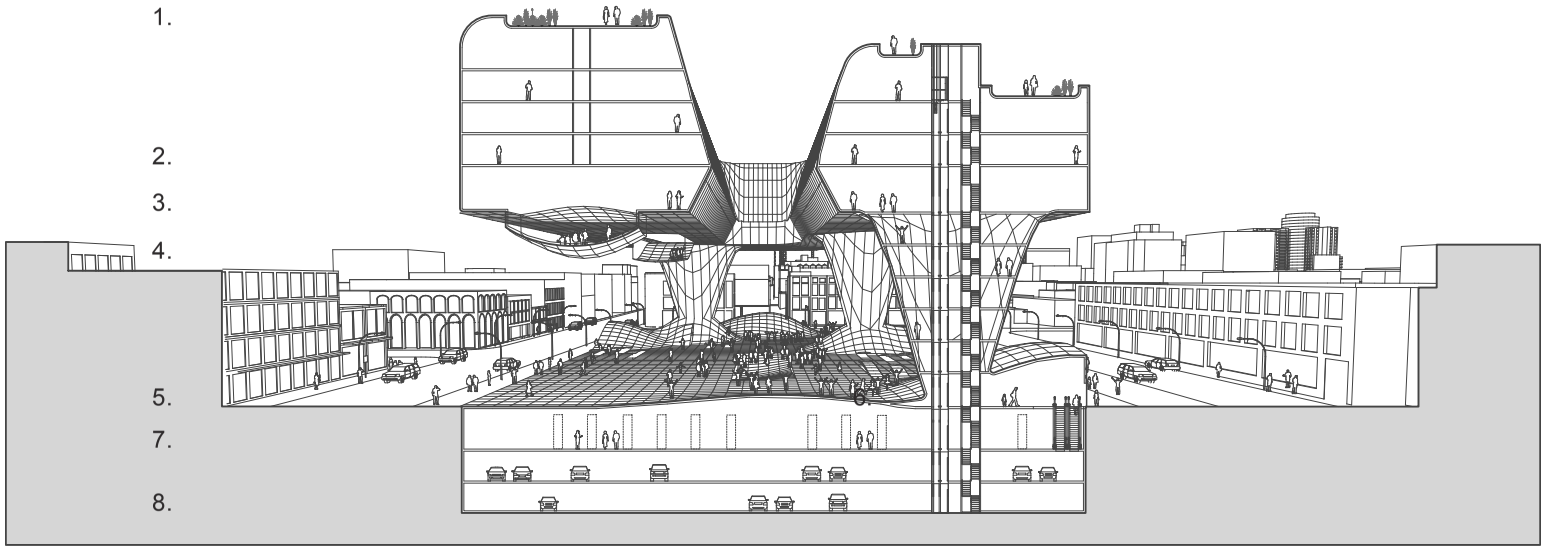
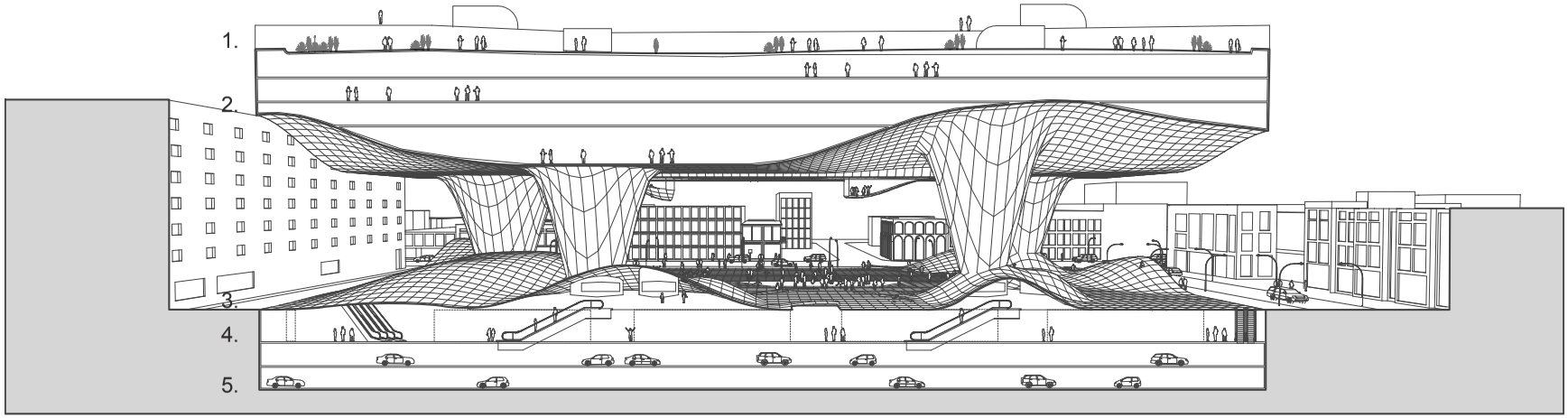


Figure 6.2.11 Plans



Legend
1. Public rooftop
2. Housing
3. Restaurant/Entertainment
4. Restaurant/Entertainment
5.Public Landscape
6. Office/Retail
7. Big box retail
8. Parking

Figure 6.2.12 Section A-A



Legend
1. Public rooftop
2. Housing
3. Lobby entrance to residential and retail below
4. Big box retail
5. Parking

Figure 6.2.13 Section B-B

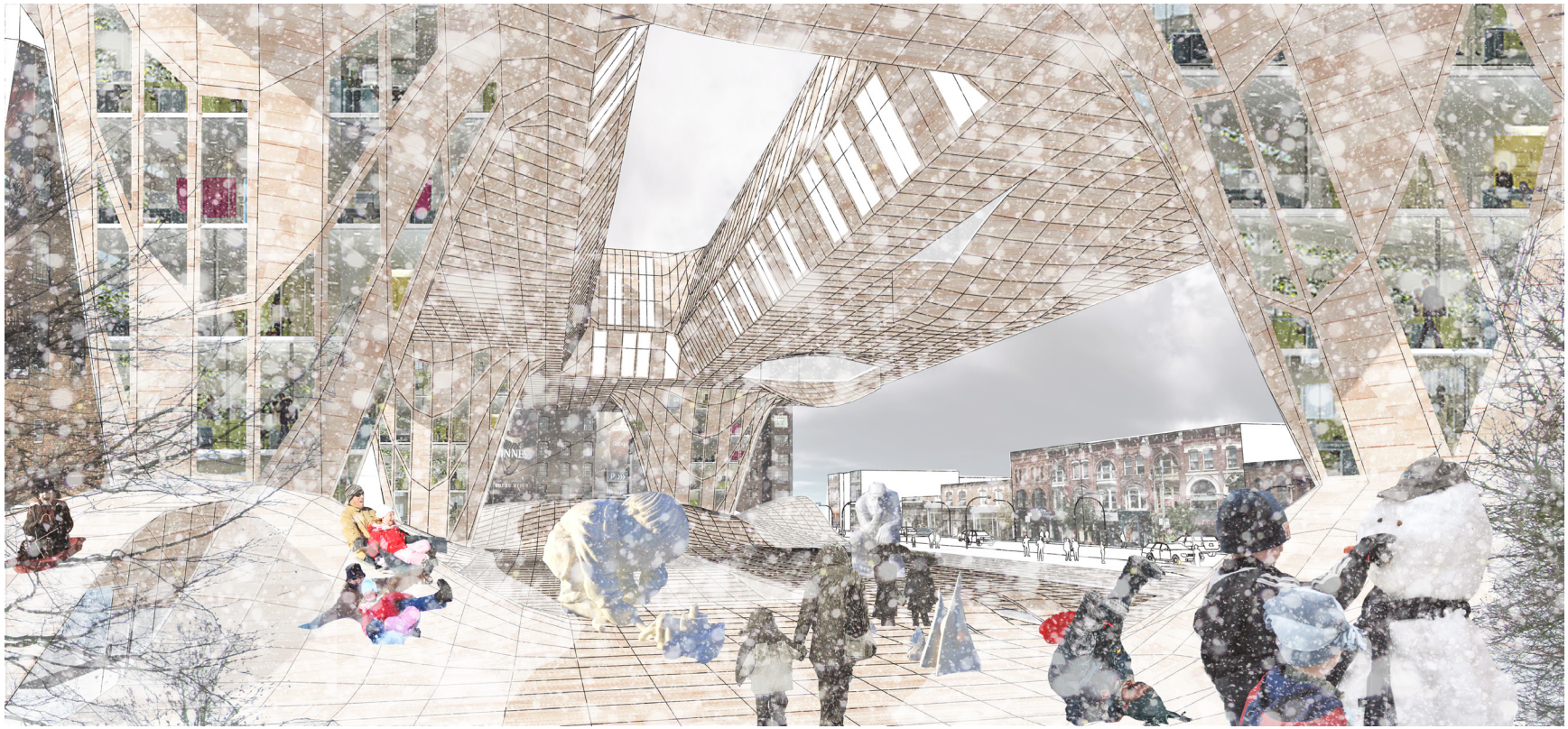


Figure 6.2.14 All season events: Tobogin and Ice Scultputre show

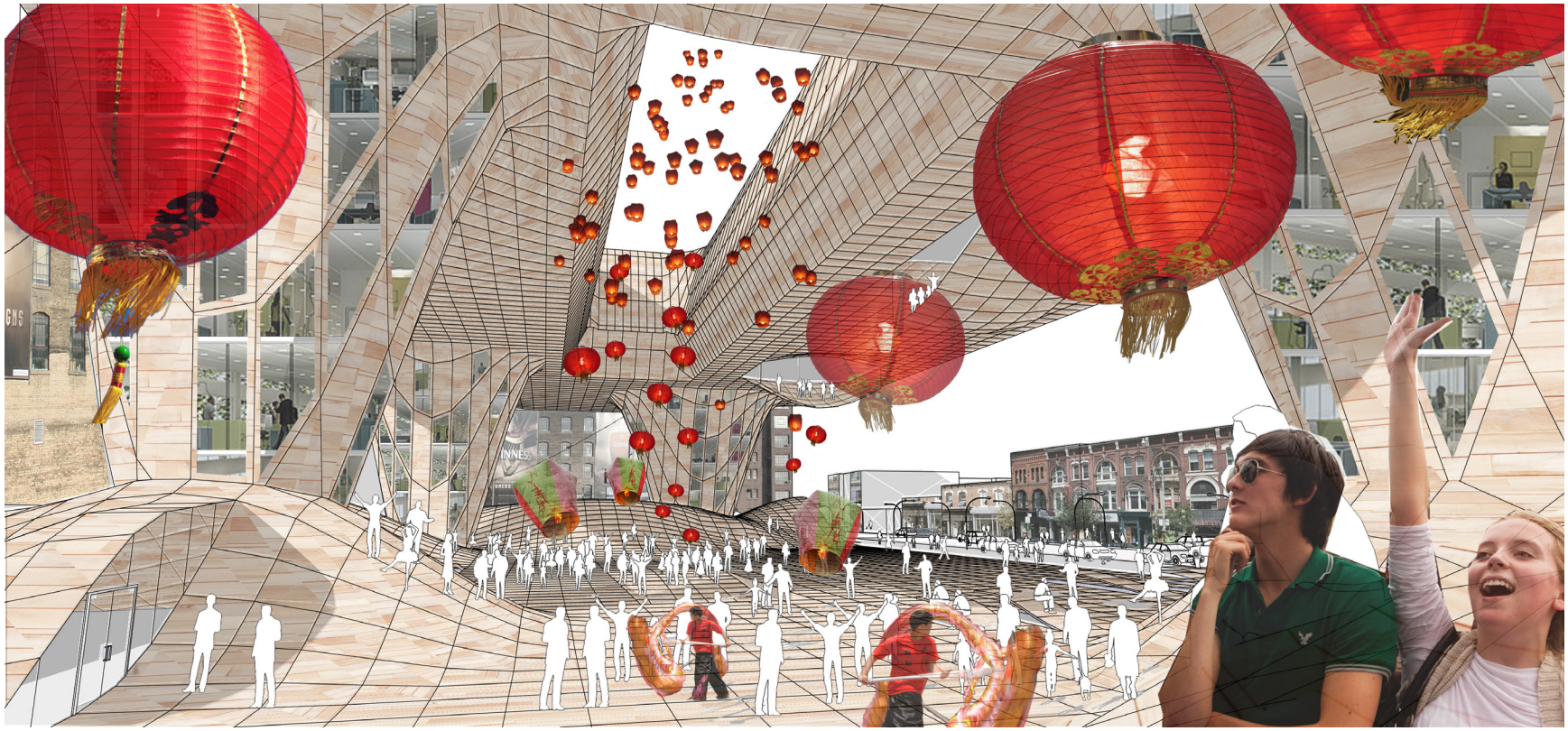


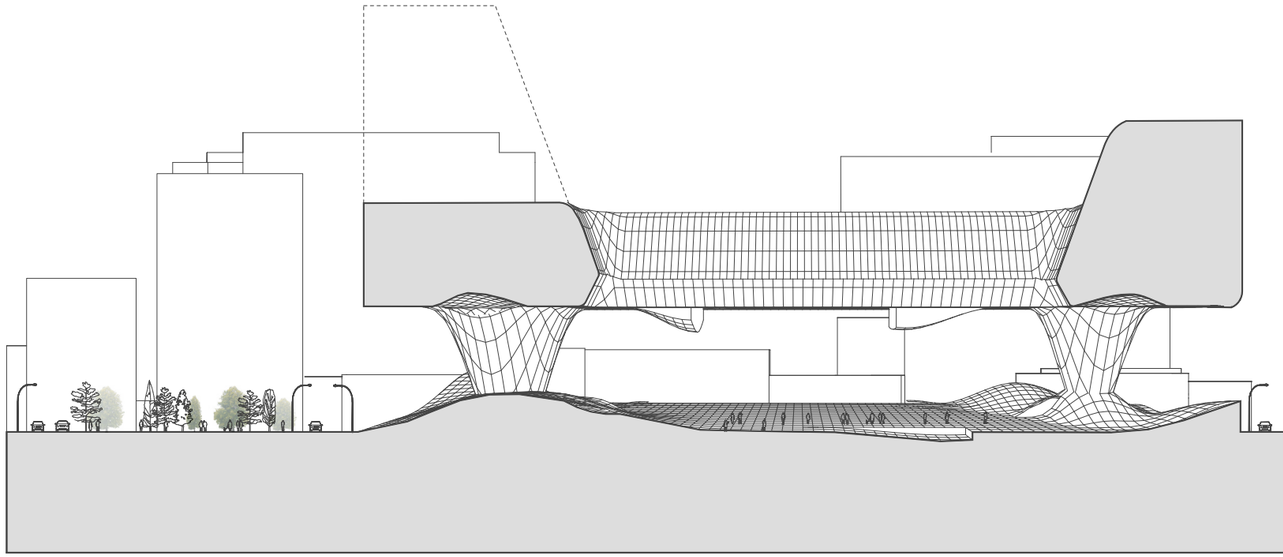
Figure 6.2.15 Cultrural Festivities: Chinese Lantern Festival

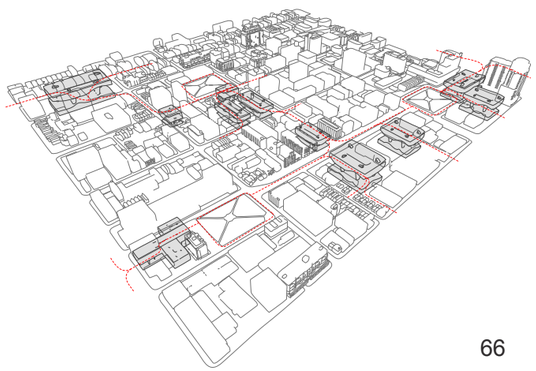
Figure 6.2.16 Variations on a theme
Urban rock climbing

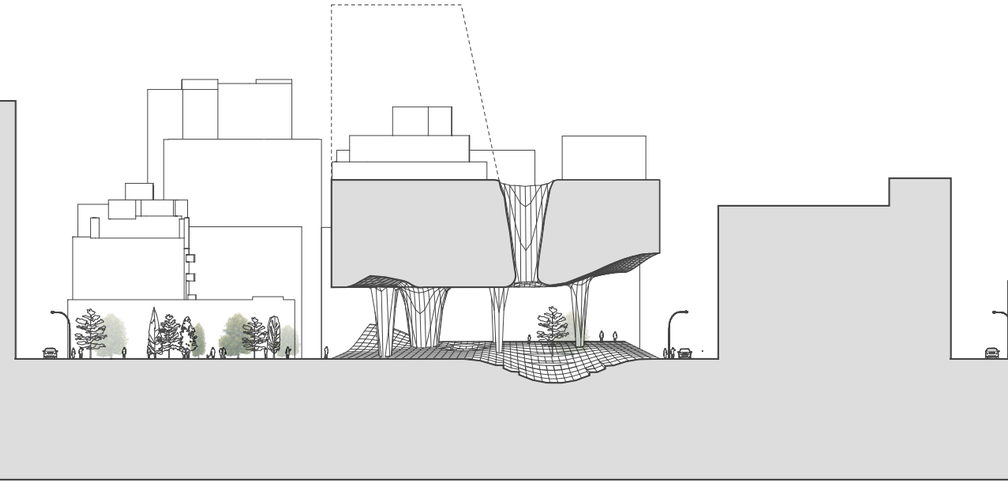
Figure 6.2.17 Variations on a theme
Farmers market

Figure 6.2.18 Variations on a theme
Public forum

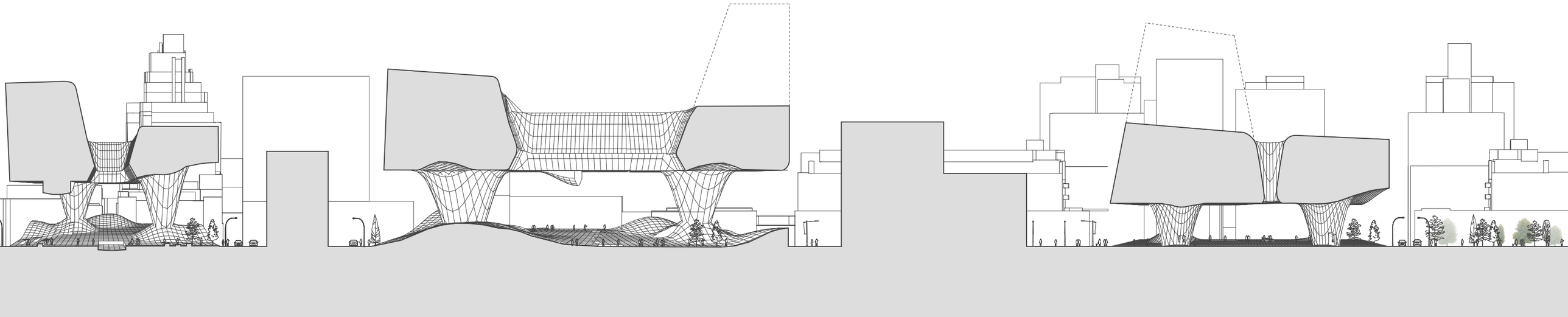
Figure 6.2.19 Variations on a theme
Urban camping

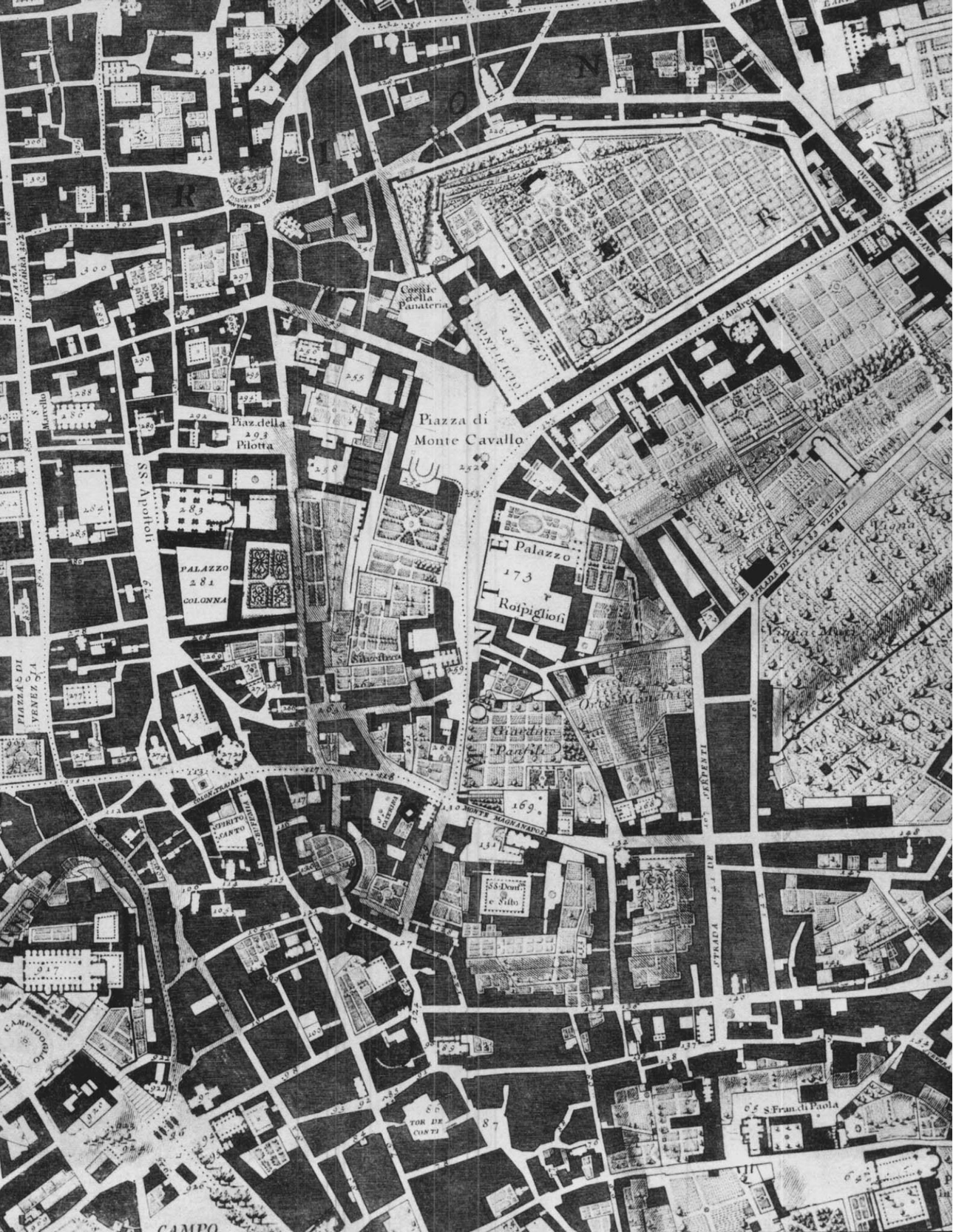






Nolli Section: creating the Nolli map for the 21st century city





Piazza di Monte Cavallo
Piaz. della Pilotta
Cortile della Panateria
PALAZZO PONTIFICIO
PALAZZO 281 COLONNA
Palazzo 173 Rospigliosi
Giardino Panfili
Orto Mancini
SS. Apostoli
S. Marcello
PIAZZA DI VENEZIA
COLON. TRAJANA
SPIRITO SANTO
S. Caterina
MONTE MAGNANAPOLI
S. Dom.co e Sisto
S. Andrea
QUATTRO FONTANE
STRADA DI S. VITALE
STRADA DE' SERPENTI
S. Fran. di Paola
TOR DE CONTI
CAMPIDOGLIO
CAMPO

“Although there remain numerous obstacles along this path, we are nonetheless passing through a rare historic movement when what is good for urban growth and development is aligning with political, economic, and social trends. Learning from the inherent wisdom of nature and cities of the past, we are infusing it with contemporary sensibilities.”

- Nan Ellin, 2006, p.7

Conclusion

The creation of public urban space is as important now as it was in the post-industrial era when Le Corbusier proposed the surgical removal of Paris' city centre to inject natural light and open space. Realizing the impossibility of Corbusier's tabula rasa methodology today, The Urban Banyan is a proposal for city of Toronto that works within the confines of the existing urban context and development models of Queen Street West.

The proposed new urban typology frees the ground plane, creating a public space that can intersect with existing pedestrian movement networks. The juxtaposition of movement and event constructs a dynamic identity, creating an intensified energy that is greater than the sum of its parts. In addition to creating new public space, the open ground plane allows for the flying mass above and below grade program to frame adjacent streetscapes, invigorating existing urban fabric and enhancing retail. This urban environment hints at Wolf Prix's definition of an 'urban transistor' where the "model of building as object is replaced by the idea of an urban transistor – an architecture that is capable of amplifying the urban spaces adjoining it through its own spatial organization" (Prix, 2003, p.18).

A reading of the Nolli map of Rome conceives public space as an enormous mass that has been carved away to create outdoor rooms. Public spaces were seen as figural elements in that ancient city, with surrounding buildings acting as backdrops. Like the Nolli map of Rome, the proposed Nolli section places public space as the hierarchal organizing element of urban architecture. The 21st- century Nolli map laterally integrates open public space within private development,

allowing for the accommodation of both within the architectural project.

This thesis illustrates how a new urban plan may be created for the contemporary North American city by means of key interventions near existing squares and pedestrian streets. The proposed urban typology on a single site has the potential to produce a tentacular or domino effect that will catalyze other interventions in an ongoing dynamic process. Wolf Prix states: “the master plan is dead”, but this is true only in the traditional sense. Architecture can in fact indirectly create an urban plan that places public space at its heart and fosters humanity in the 21st-century city.

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Appendices

8.1 Research Matrix

8.2 Toronto Site Analysis

Blanket Architecture

Public Space Parti

Notes

Roof House | Delft Library | Youth House | Housing/Public Space | High Square

BIG Architects

Table Top Architecture

Public Space Parti

Notes

Maison Cook | Villa Savoye | Unite de Habutation | Peckham Library | OCAD Sharp Centre

Le Corbusier

Will Alsop

Program: Cultural
Scale: Large
Cold Climate
(Bldg): Good

Israel Public Square

Program: Cultural
Scale: Large
Cold Climate
(Bldg): Good

Yokahoma Ferry

Program: Institutional
Scale: Medium
Cold Climate
(Bldg): Good

Eyebeam Museum

Program: Cultural
Scale: Medium - Large
Cold Climate
(Bldg): Good

Aomori Art Museum

Program: Cultural
Scale: Large
Cold Climate
(Bldg): Bad

Rudy Riciotti

Program: Housing
Scale: Medium - Large
Cold Climate
(Bldg): Good

Thermal Bridge

Program: Cultural
Scale: Large
Cold Climate
(Bldg): Good

Taipei Arts Centre

Program: Cultural
Scale: Medium - Large
Cold Climate
(Bldg): Good

Groninger Forum

NL Architects

Building Envelope: From 2D Facades to 3D Environment

Student: Elmira Yousefi, Professor: Cheryl Atkinson, Date: November 6th, 2009

Table 8.1.1 Master matrix

Table Top Architecture

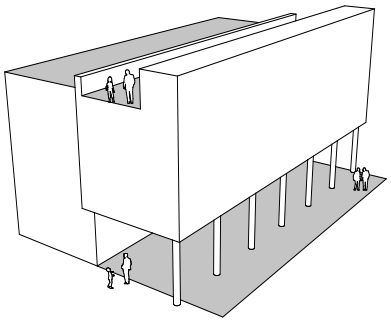
Public Space Parti

Notes

Circulation

Le Corbusier

Maison Cook



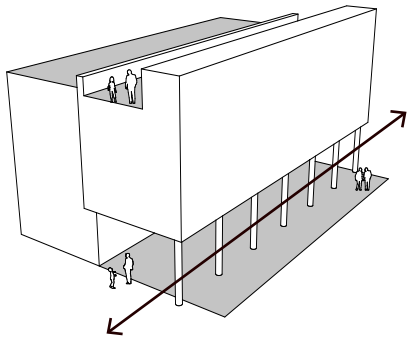
Program: Housing

Scale: Small

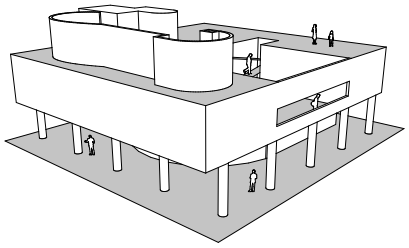
Cold Climate

(Bldg): Good

(Public Space): Good



Villa Savoye



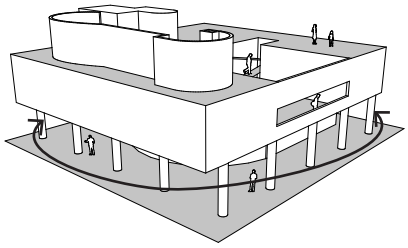
Program: Housing

Scale: Small

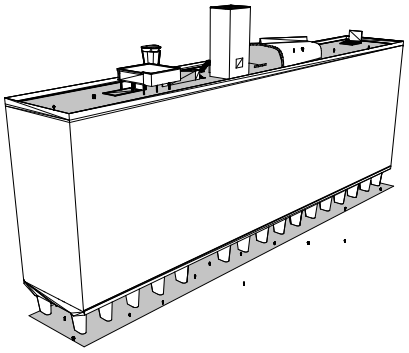
Cold Climate

(Bldg): Good

(Public Space): Good



Unite de Habutation



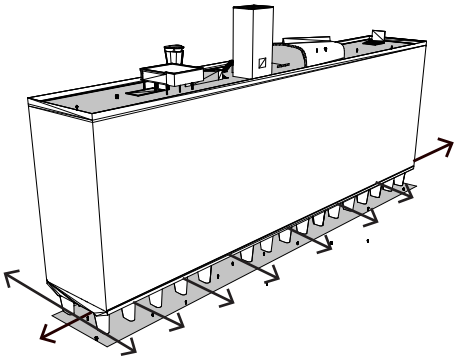
Program: Housing

Scale: Large

Cold Climate

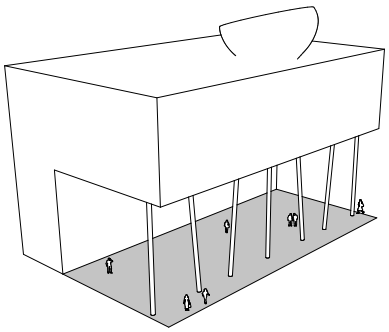
(Bldg): Good

(Public Space): Good



Will Alsop

Peckham Library



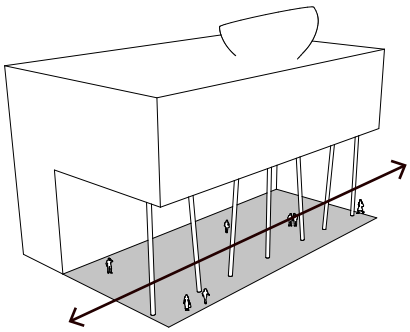
Program: Institutional

Scale: Medium

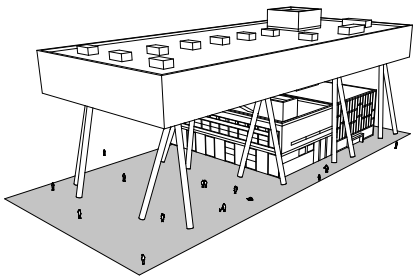
Cold Climate

(Bldg): Medium

(Public Space): Medium



OCAD Sharp Centre



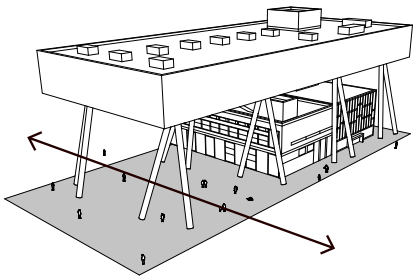
Program: Institutional

Scale: Medium - Large

Cold Climate

(Bldg): Bad

(Public Space): Bad



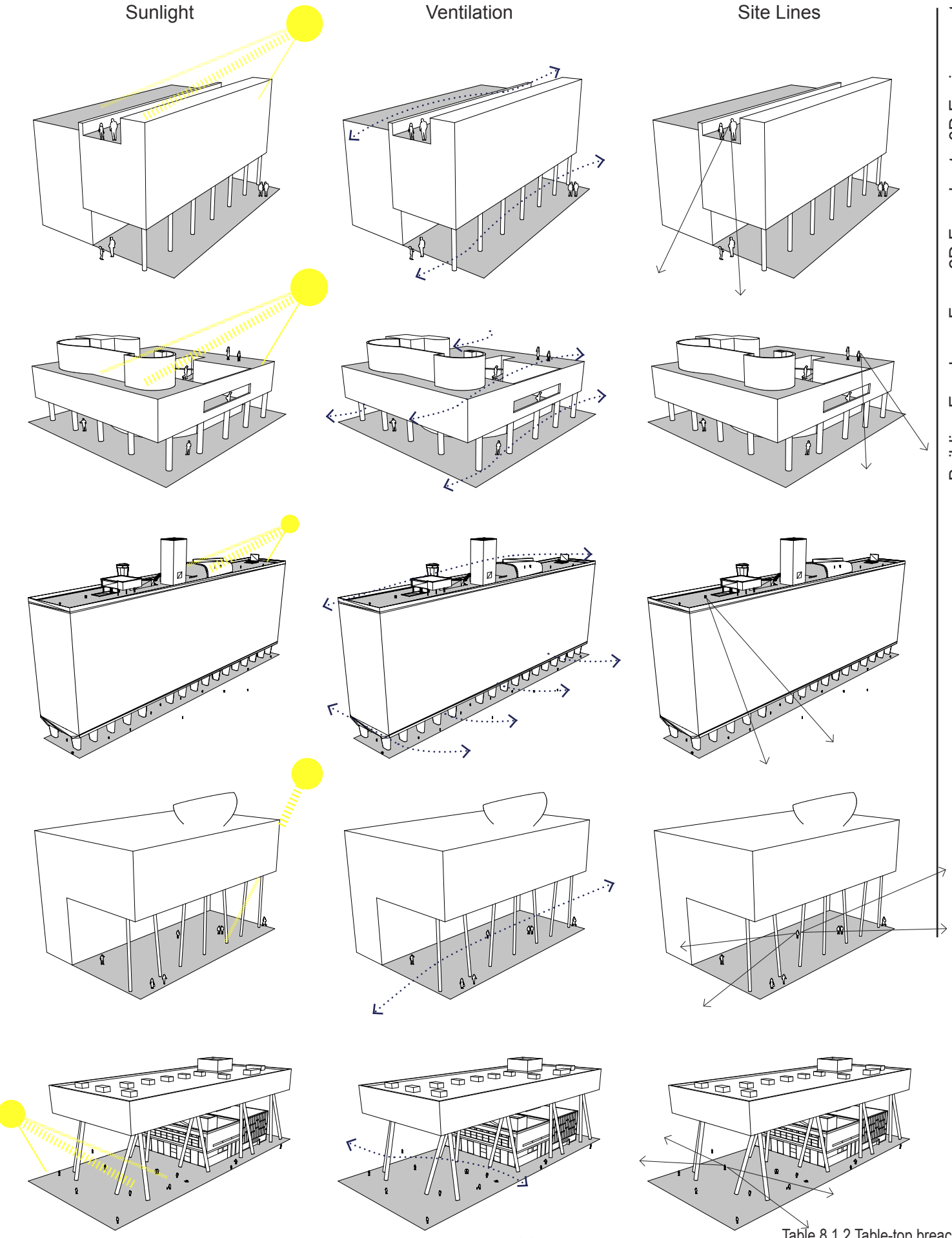
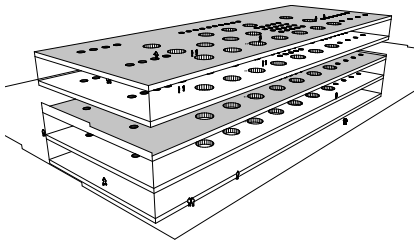
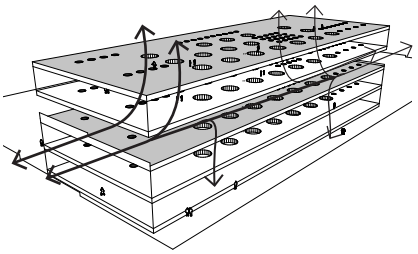
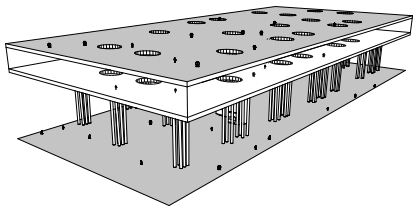
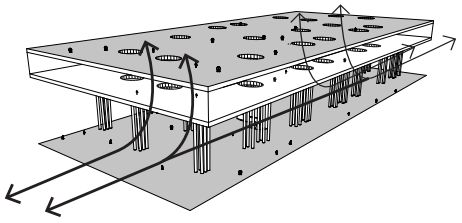
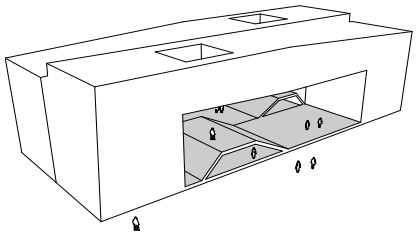
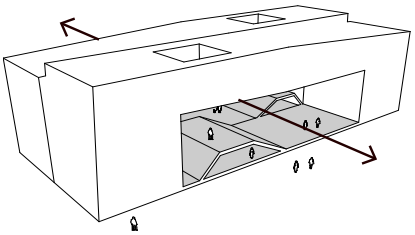
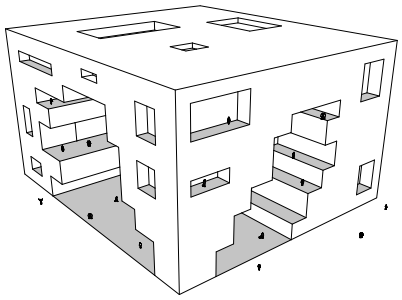
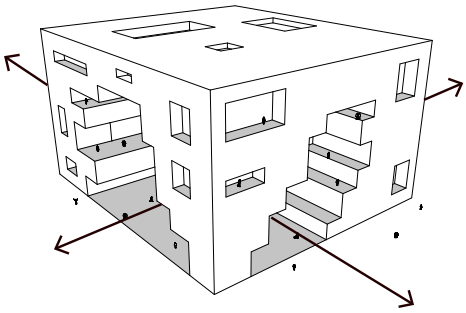
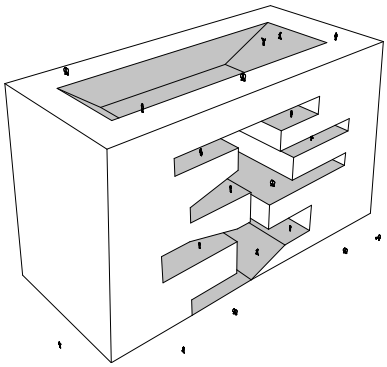
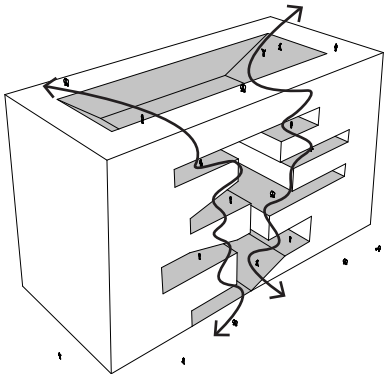


Table 8.1.2 Table-top breackdown

Table Top Architecture

	Public Space Parti	Notes	Circulation
Aomori Art Museum		Program: Cultural Scale: Medium - Large Cold Climate (Bldg): Good (Public Space): Good	
Rudy Riciotti		Program: Cultural Scale: Large Cold Climate (Bldg): Bad (Public Space): Medium Good	
Thermal Bridge		Program: Housing Scale: Medium - Large Cold Climate (Bldg): Good (Public Space): Good	
NL Architects Taipei Arts Centre		Program: Cultural Scale: Large Cold Climate (Bldg): Good (Public Space): Good	
Groninger Forum		Program: Cultural Scale: Medium - Large Cold Climate (Bldg): Good (Public Space): Good	

Sunlight | Ventilation | Site Lines

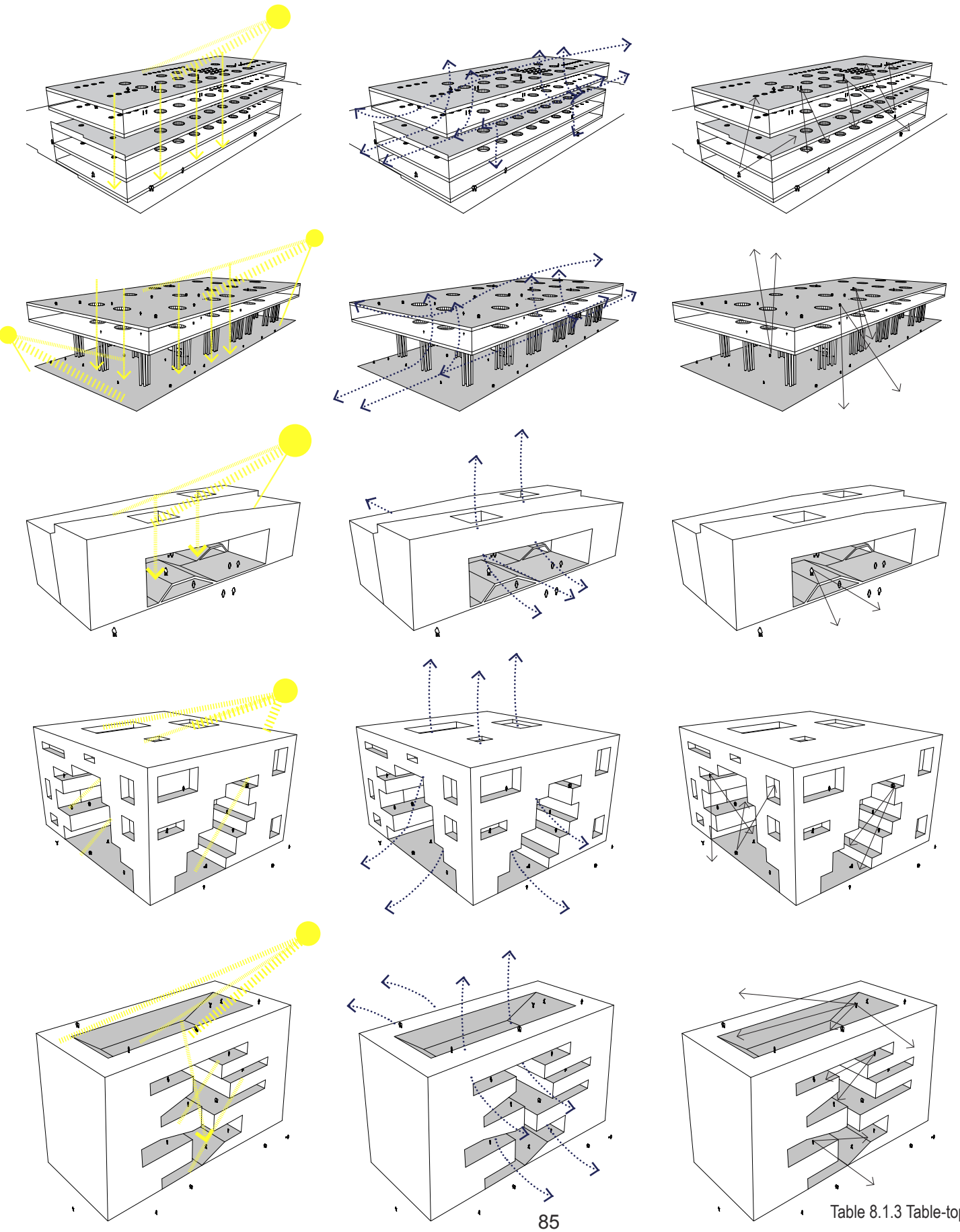


Table 8.1.3 Table-top breakdown

Blanket Architecture

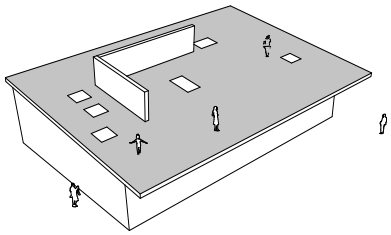
BIG Architects

Public Space Parti

Notes

Circulation

Roof House



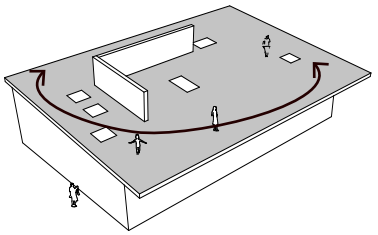
Program: Housing

Scale: Small

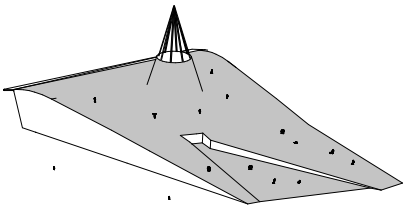
Cold Climate

(Bldg): Good

(Public Space): Good



Delft Library



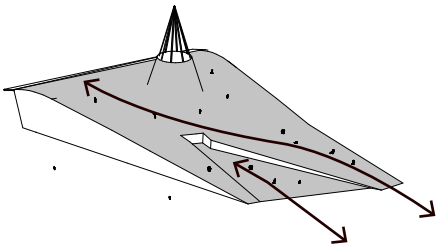
Program: Institutional

Scale: Medium

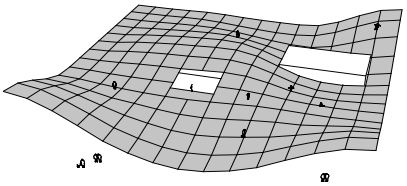
Cold Climate

(Bldg): Good (Green Roof)

(Public Space): Bad



Youth House



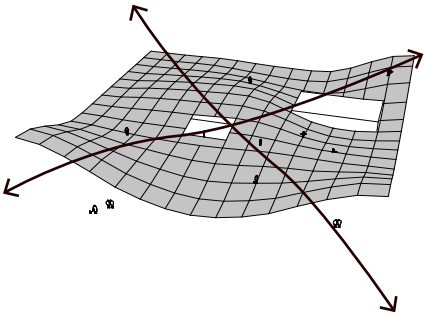
Program: Housing

Scale: Small - Medium

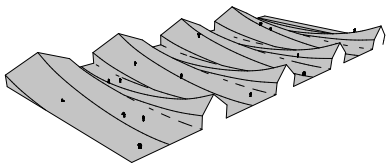
Cold Climate

(Bldg): Good

(Public Space): Good



Housing/Public Space



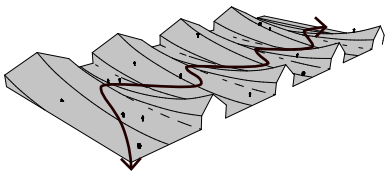
Program: Housing

Scale: Large

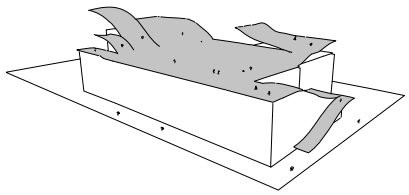
Cold Climate

(Bldg): Good

(Public Space): Good



High Square



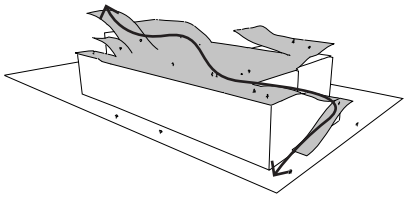
Program: Cultural

Scale: Large

Cold Climate

(Bldg): Good

(Public Space): Good



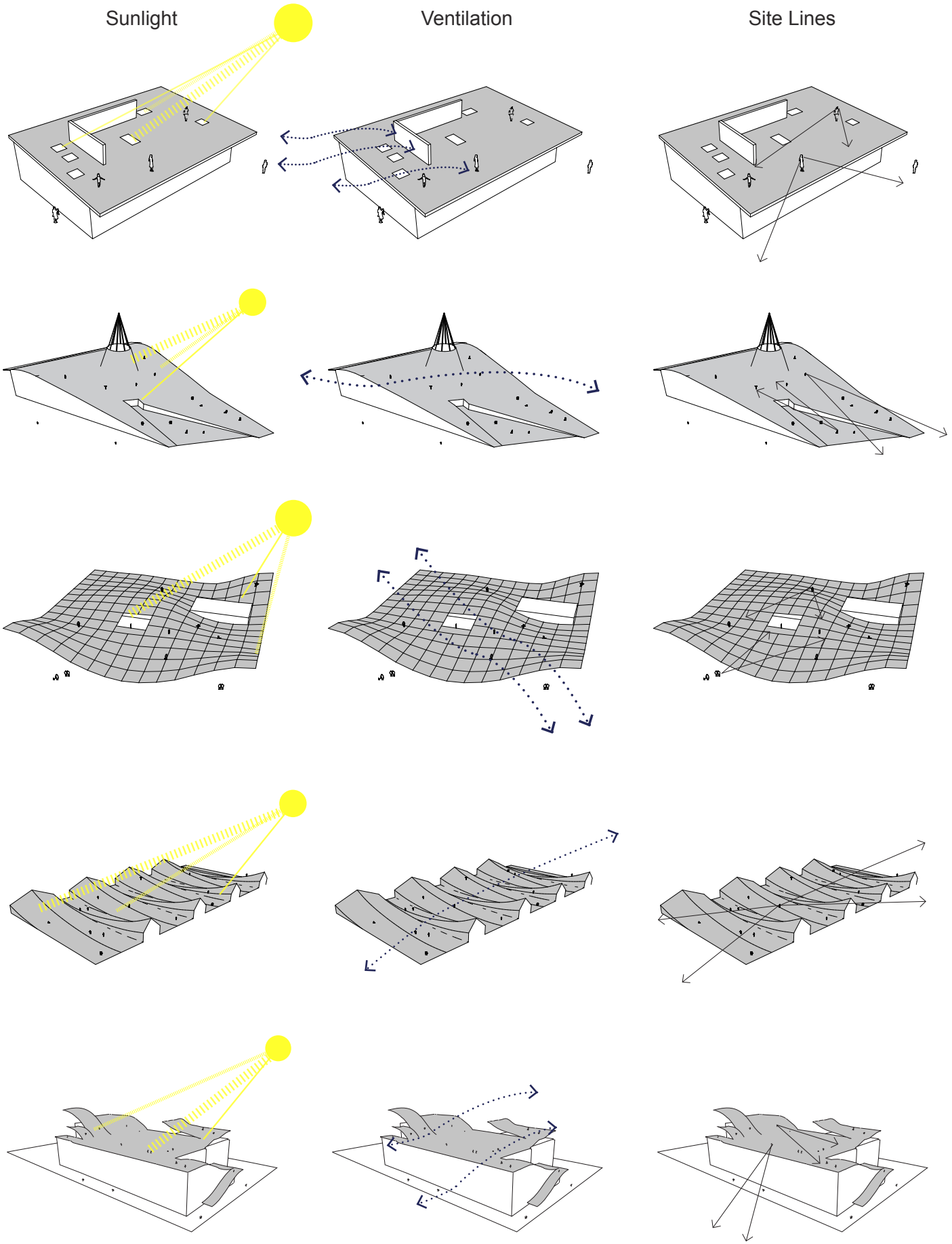
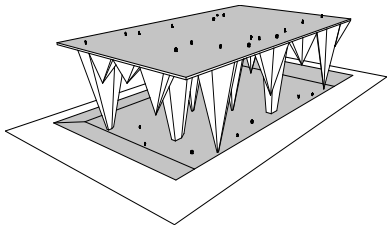
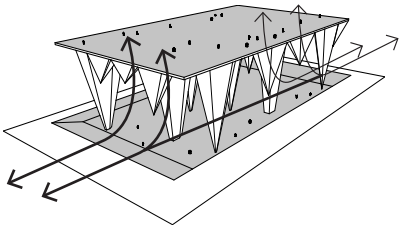
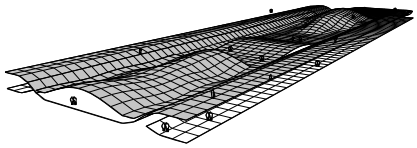
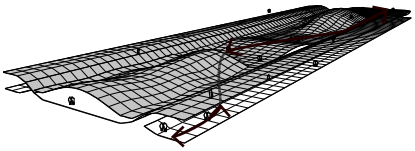
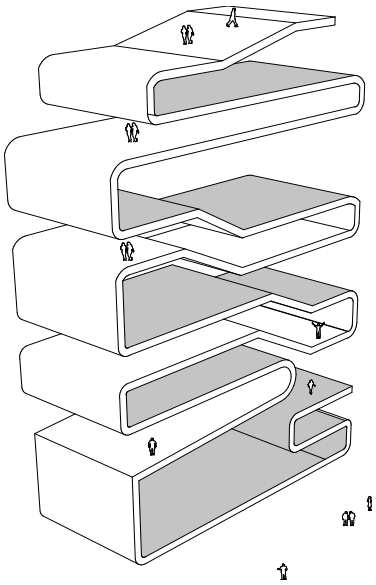
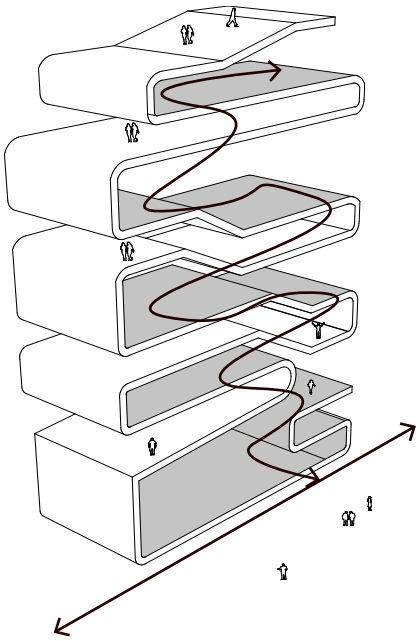


Table 8.1.4 Blanket breakdown

	Public Space Parti	Notes	Circulation
Israel Public Square		Program: Cultural Scale: Large Cold Climate (Bldg): Good (Public Space): Good	
Yokahoma Ferry		Program: Cultural Scale: Large Cold Climate (Bldg): Good (Public Space): Medium Good	
Eyebeam Museum		Program: Institutional Scale: Medium Cold Climate (Bldg): Good (Public Space): Good	

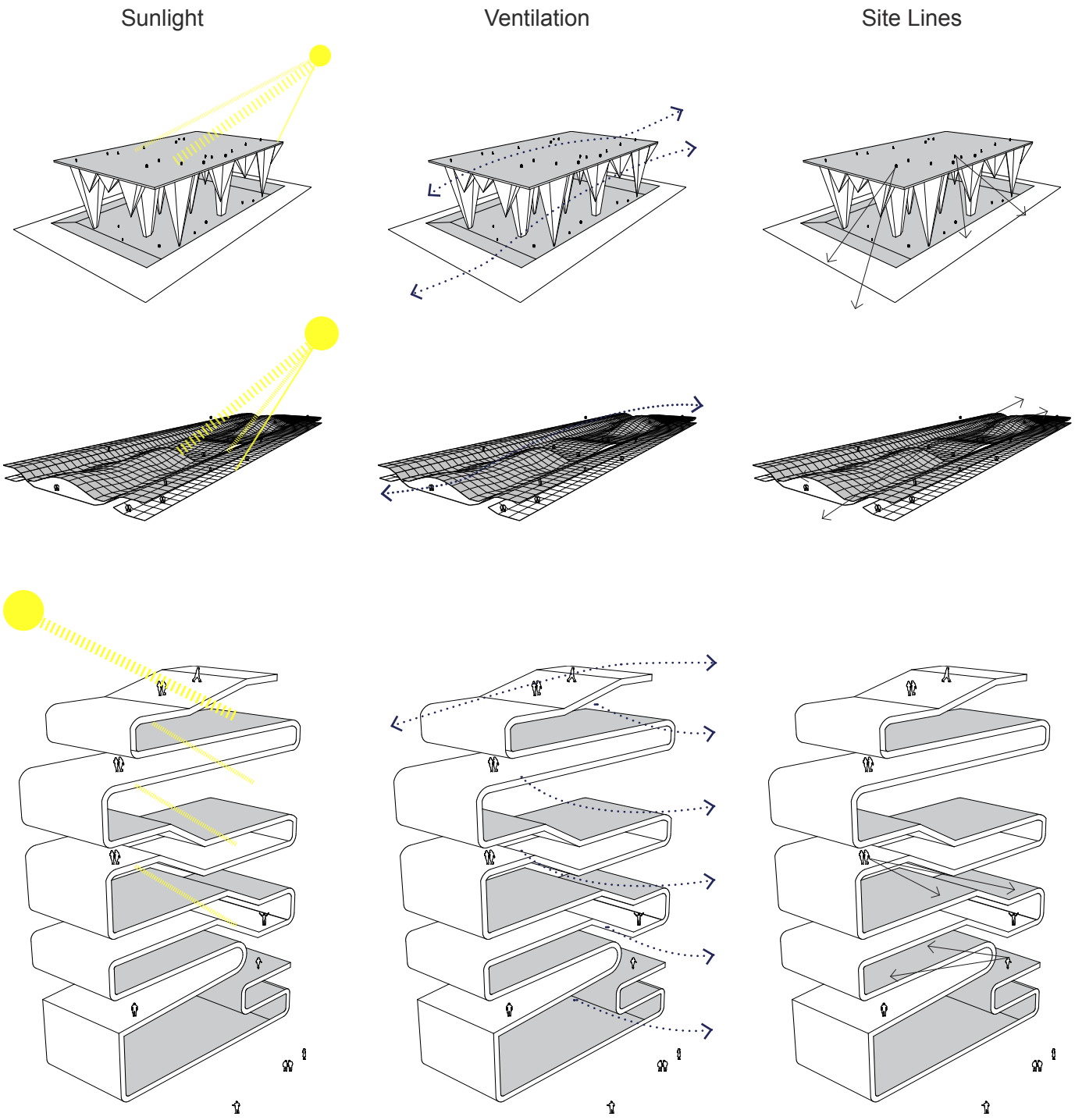


Table 8.1.5 Blanket breakdown

Table 8.2.1 Toronto's Open Spaces

Table 8.2.2 Toronto's Public Parks & Paved Public Space

Table 8.2.3 Toronto's Parking Lots in 2007

Table 8.2.4 Toronto's Parking Lots in 2009 - Potential Site for key interventions (Queen Street West area)