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Fall 2003

## Isomorphic Correspondence: Hybrid Different Media: Music and Architecture

Ki Ho Choi

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# **Isomorphic Correspondence**

***Hybrid different media : Music and Architecture***

**SCHOOL OF CRAFTING INSTRUMENTS**

**Hudson Yard in Manhattan, New York, NY**

***Syracuse University School of Architecture***

# Thesis Propasal

**Fall 2003**

**KI HO CHOI**

**Syracuse University School of Architecture**

**Thesis Committee : Anne Munly**

**Richard Rosa**

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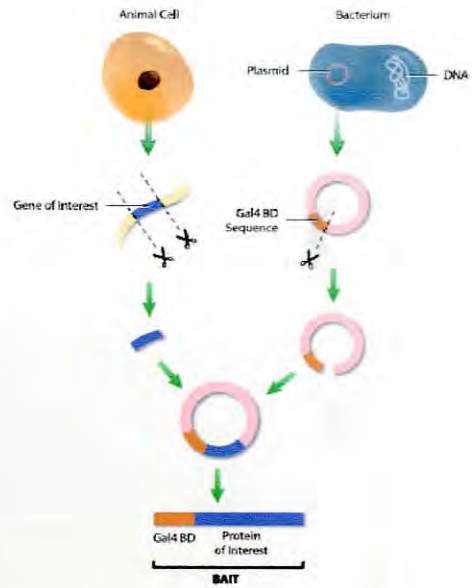
## Definition of Hybrid

According to the Wolter's Latin dictionary, 'Hybrida' means bastard, child of a Rome and a foreigner. In the social sciences and philosophy, the concepts of 'Hybrid' and 'Hybridity' are described as "mixture of elements which are different and which are generally separate from each other." There are several meaning in contemporary dictionary ; [n] an offspring of genetically dissimilar parents or stock; especially offspring produced by breeding plants or animals of different varieties or breeds or species [n] a composite of mixed origin; "the vice-presidency is a hybrid of administrative and legislative offices" [n] a word that is composed of parts from different languages (e.g., 'monolingual' has a Greek prefix and a Latin root)

In the field of biology, Hybrid is a new species created all the time as creatures adapt and mutate to best suit their environment. The creation of offspring from two genetically dissimilar parents. Two organisms are crossed with different desirable characteristics with the premise that the offspring will possess more of the desirable characteristics.

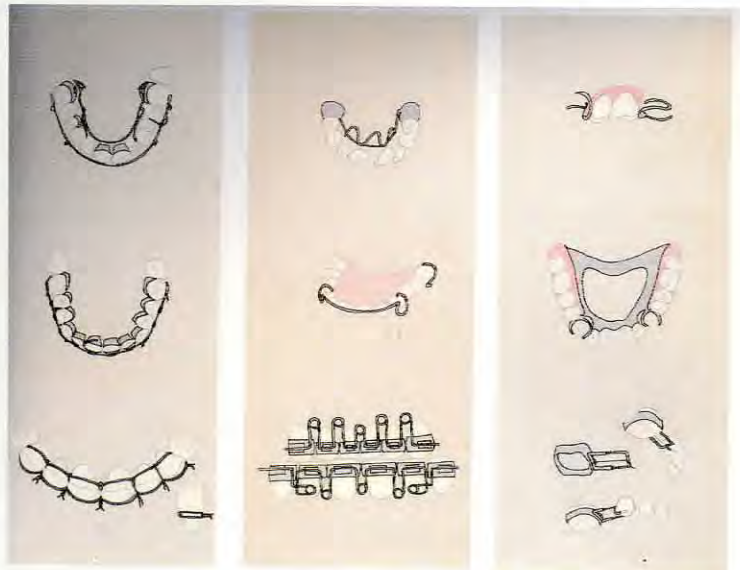
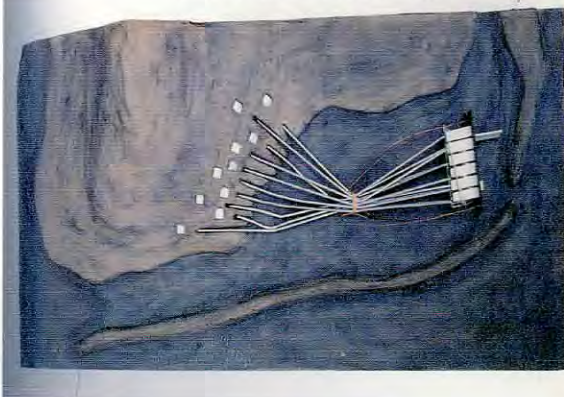
However, 'Hybridity' is not any longer merely melting out, but become a new, the third medium with new logic. The process of hybrid is the cross-fertilizing efforts in terms of the hereditary between the different media.

The terms of '**isomorphic correspondence**' (from Gestalt psychology to describe the relationship between our experience of order in space and the distribution of underlying dynamic process in the brain) can be one image of the hybridity. Isomorphic is a very general concept which appears in several areas. The word derives from the Greek; 'iso', meaning "equal," and 'morphosis', meaning "to form" or "to shape." It can be defined as 'Having a similar structure or appearance but being of different ancestry'. Today, the concept of similar structural relationships occurring in different media is described as 'isomorphic correspondence'.



Pic 1-1 < Hybrid in Biology >

Pic 1-2 < Hybridity >





## **Cross-over between Isomorphes (Architecture & Music)**

We live in a culture that readily and pervasively privileges the eye over the ear.

The eye and the ear resemble each other in construction, number, and in the function of their points resulting in the obvious perception of similar properties of matter.

The hybrid of these two media and mutations of visual sound and acoustic space can be imagined in the sense of cross-fertilized architecture and music. Architecture and music, they both make feelings, touching a deep part of one's sensibility and have similar characteristics in their elements. The core of understanding architecture in relation to music is that we review the root and elements that forms architecture and create music.

The relationship between architecture and music already has a long historic tradition dating back as early as classical antiquity in Greece where the concept of number and music played an essential role in their aesthetics. In 1829, Goethe compared architecture to 'frozen music', he said that it is tone of mind produced by architecture that approached the effect of music. This connection to mind is the vital historical link that ties architecture to both art and science. The concept of 'isomorphic correspondence' that underlies the 'frozen music' metaphor is also seen as an almost suprahistorical paradigm.

Architectural principles such as the proportion, hierarchy, symmetry, adaption, repetition, rhythm and balance and etc, -all of these have their isomorphic counterparts in music.

The crux of the musical analogy in architecture is not whether the number are the same, but that there is a similar structure; a system of proportional relationships that repeat with variation, etc. The general principles of form that connect music to architecture could be like repeating intervals and rhythm, repeating ratios and harmony help to establish an 'isomorphic correspondence' between the two media. In the case of the proportion, repeating ratios means that the divisions between parts and wholes are consistent at different levels of scale.

Like the orchestras composed of so many instruments with one conductor, architecture is composed by the post and lintel whether it is complex or simple. its aesthetics, the programs and etc were the symphonies of architecture. Architecture can possibly generated by music and synthesis with music because these two media have similar characteristics.

Music: Beat, Harmony, Tone, Rhythm, Verse, Chorus...

Architecture: Structural rhythm, Harmony of space, Hierarchy and Transition of space...

## Historical references

### Pythagoras

In the sixth century BC, Pythagoras observed the musical tones produced by vibrating strings create harmonic resonance if their lengths are ratios of whole number.

### Vitruvius

Vitruvius' system of proportions based on the human figure also express the sizes of the part in terms of the whole as a harmonic progression of ratio. Vitruvius listed music as one of the "essentials" of architecture, used primarily to 'tune ballistae, capapultae, and scorpiones to the proper key.

### Alberti

Alberti used the harmonic ratios in music to his building design which corresponded to the musical consonance (1:1,2:3 for small plan; 4:9, 9:16 for medium; 3:8, 4:1 for large plans)

### Palladio

Palladio applied these so-called harmonic ratios to the internal layout of the whole building. Through music, the visual arts-especially architecture was given a mathematical foundation

But the Renaissance theory of harmonic proportions had unfortunately 'degenerated' into a 'narrow and inflexible' body of thought focused on a handful of simple arithmetic ratios

### Gestalt theory

The perception of repeating proportional ratio

The relationship between our experience of order in space and the distribution of underlying dynamic process in the brain

### Goethe

The process of formation and transformation

Frozen music : He said that it is the *tone of mind* produced by architecture that approached the effect of music

### Ruskin

The laws of natural form

### Frank Lloyd Wright

Organic architecture

### Le Corbusier

Ineffable space and modular system based on human figure

### Christopher Alexander

Pattern languages

James Gleick

Chaos theory using mathematical typology : Fluctuation, discontinuities, and Oscillations...

John Cage

Emancipation of nonintention with 'Fontana mix'

Daniel Libeskind

Perception and measurement linking music and architecture



## Hypothesis of Methodology

I have investigated and analyzed a range of aspects and analogies between music and architecture. Moreover, I have studied the impact and harmony to create the 'Hybrid' form of design aspects. The topic of music and architecture is an ancient one, and any attempt to mention the subject that fail to acknowledge and account for the changes that have occurred and are still occurring is sure to be full of unintended but inevitable erroneous resonances.

In my thesis approach to the music and architecture, I am not evoking the classical Pythagoras and Palladio. I am more dealing with architecture and music as new ground of present architecture and new hybrid medium between them.

In embracing science and technology, music faced and attempted to resolve the problems long before architecture, and has tried to break its cage. In this century, the music has changed with series of emancipation and composers have tried created new form of instrument according to their new theory of music and invention of new sound. They also investigated the instruments itself to create best music and sound.

Architecture, just linked music with simple arithmetic ratios, should confront and try to parallel to contemporary music theory.

To hybrid these different media, I have chosen the instruments and Bella Bartok's musical theory. Instrument has architectonic form with musical character while Bartok's musical theory has visual character. These two media can be sources of the hybrid the music and architecture.

First of all, I have analyzed the character of musical instrument itself and tried to find secondary space within instruments. This process gave me a inspiration about the another possibility of design aspects. And then, I have studied about the Bella Bartok's musical theory that synthesized various contemporary

music theories. His visual analysis in his music composition and linkage between music and visual, architectonic characters are another raw material to hybrid the different media.

I have tried to find and define the new logic in this experiment to suggest future of the architecture and break the cage of architecture itself just like music have done in this century.

# **SPACTIAL ANALYSIS OF MUSICAL INSTRUMENTS**

## Musical instruments

### Architectonic form with musical character

The Instrument itself is the hybrid form of the music and architecture.

It has its own architectonic form with musical character. Each element is synthesized with best composition to produce the sound and it has similar construction technique and internal space. There is another physical space within the instrument consisted of couple distinct forms and covered the certain range of the sound manipulated by hand and breath.

Each of these spacial elements is unique and concord with the other elements and each of them become successful architects of the space of their sound.

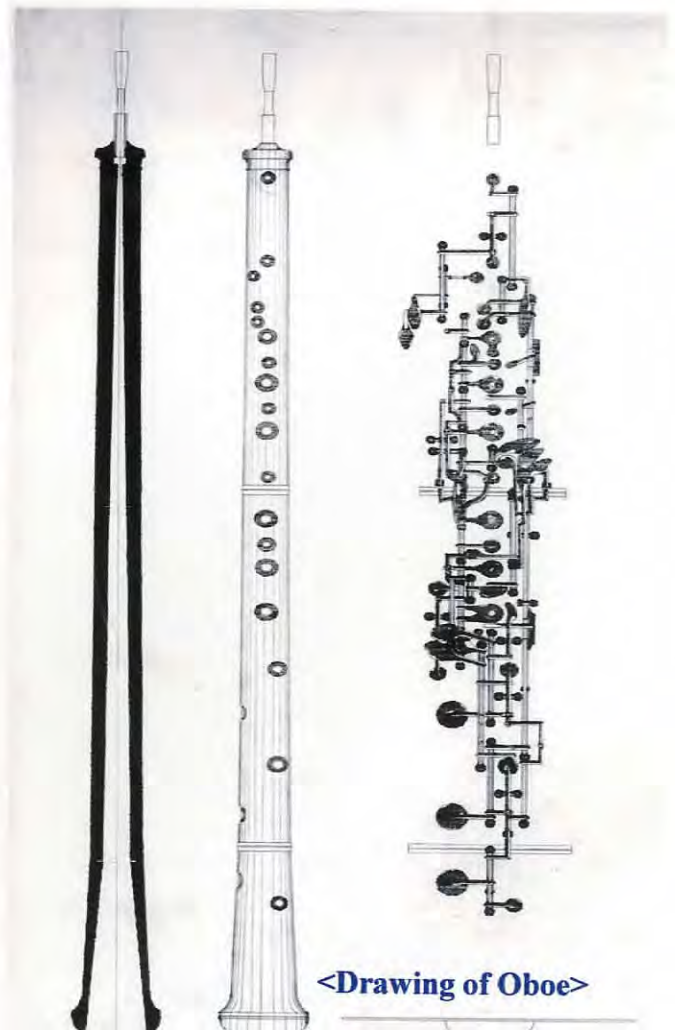
Each type of instrument has own constructional method and space, and can be analyzed as architectonic elements.

I use the instruments as the design tools for my thesis because of its hybridity.

I firstly, have drawn the set of analytic diagram of instrument itself and found there are musical character in that diagram.



<Section drawing of Flute>

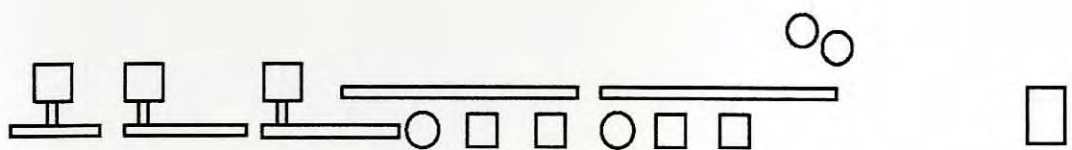
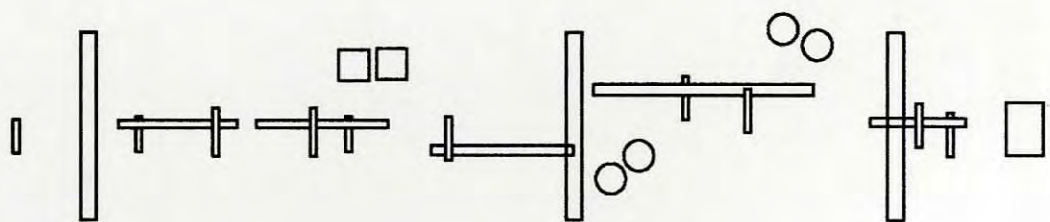
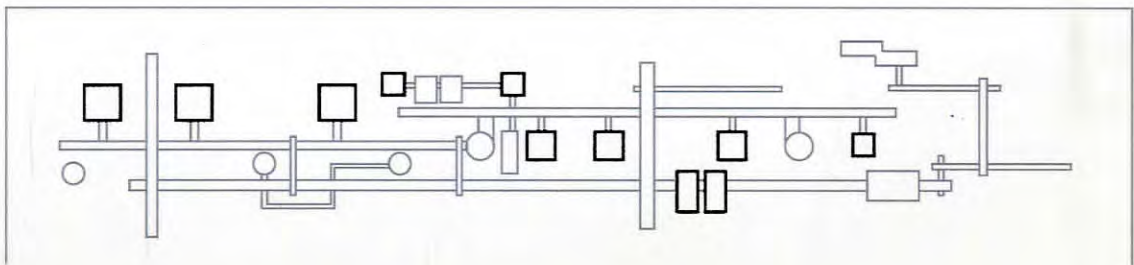
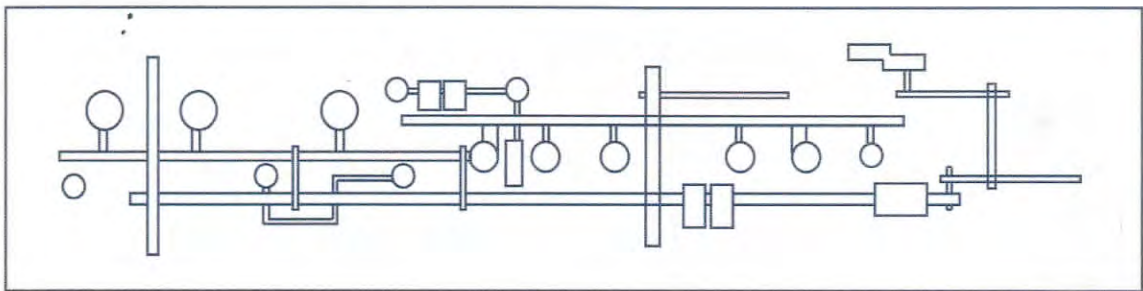


<Drawing of Oboe>

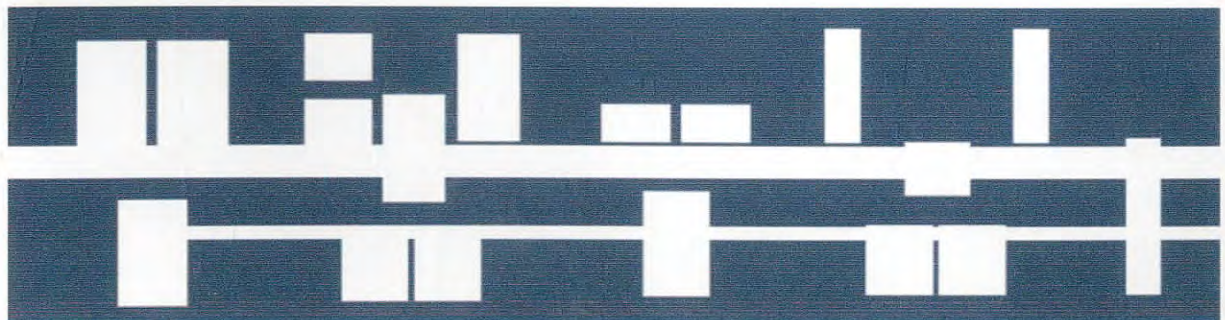
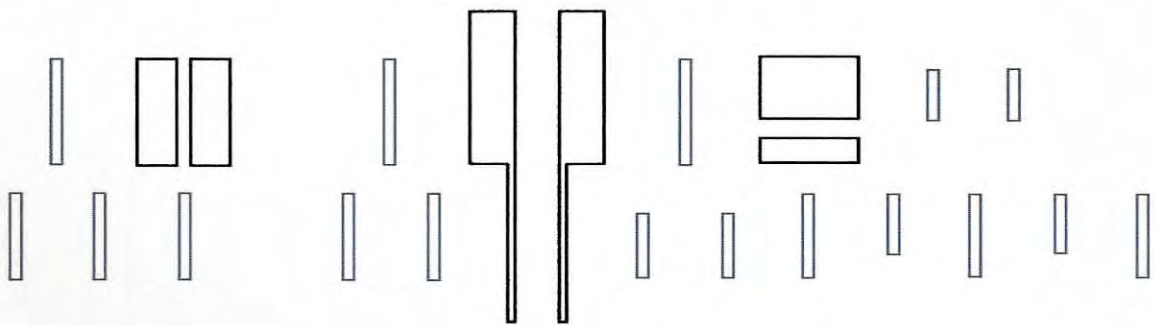
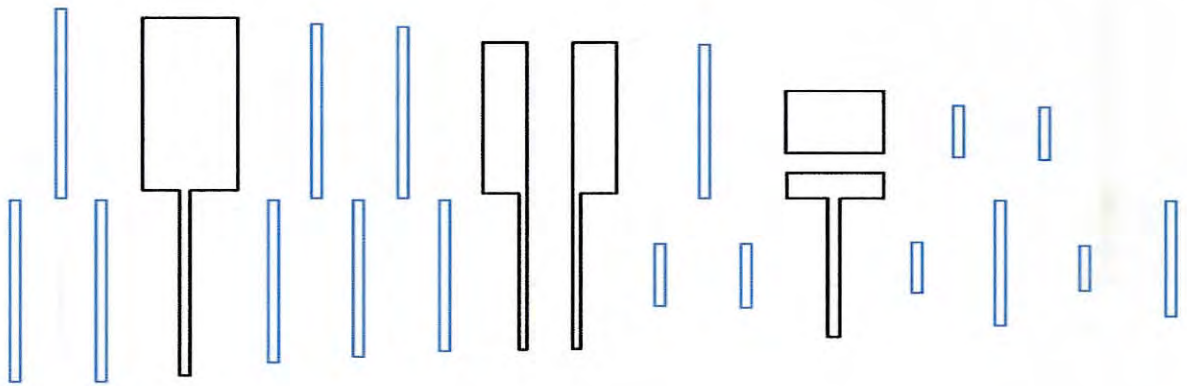
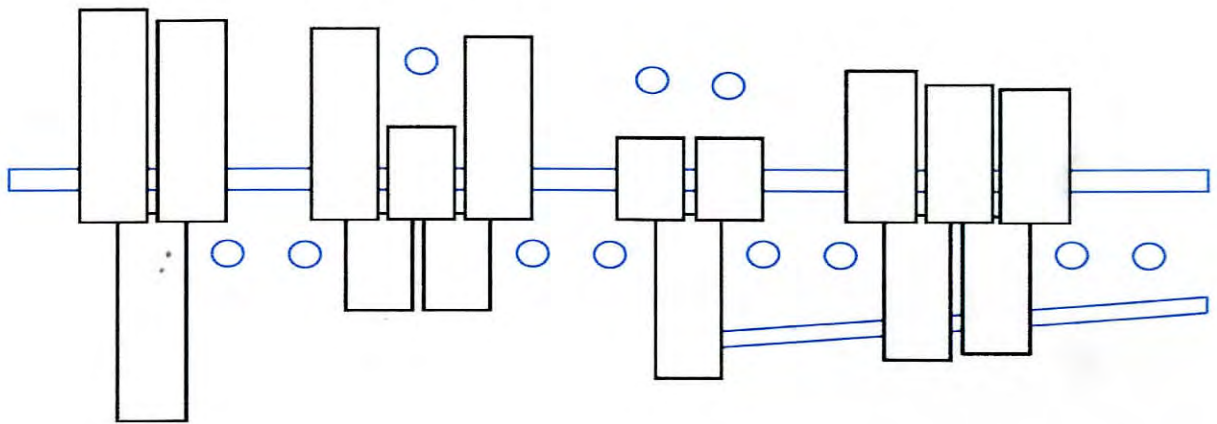


# Analytic Diagrams of Instruments

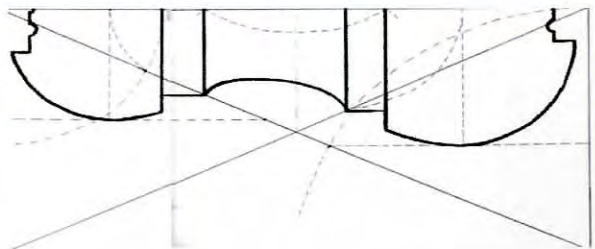
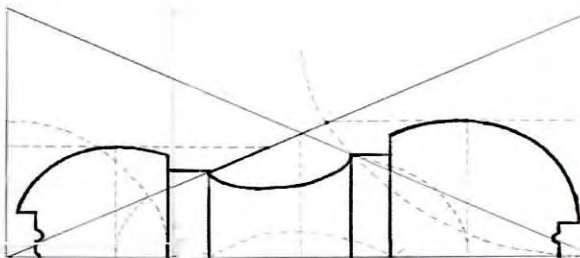
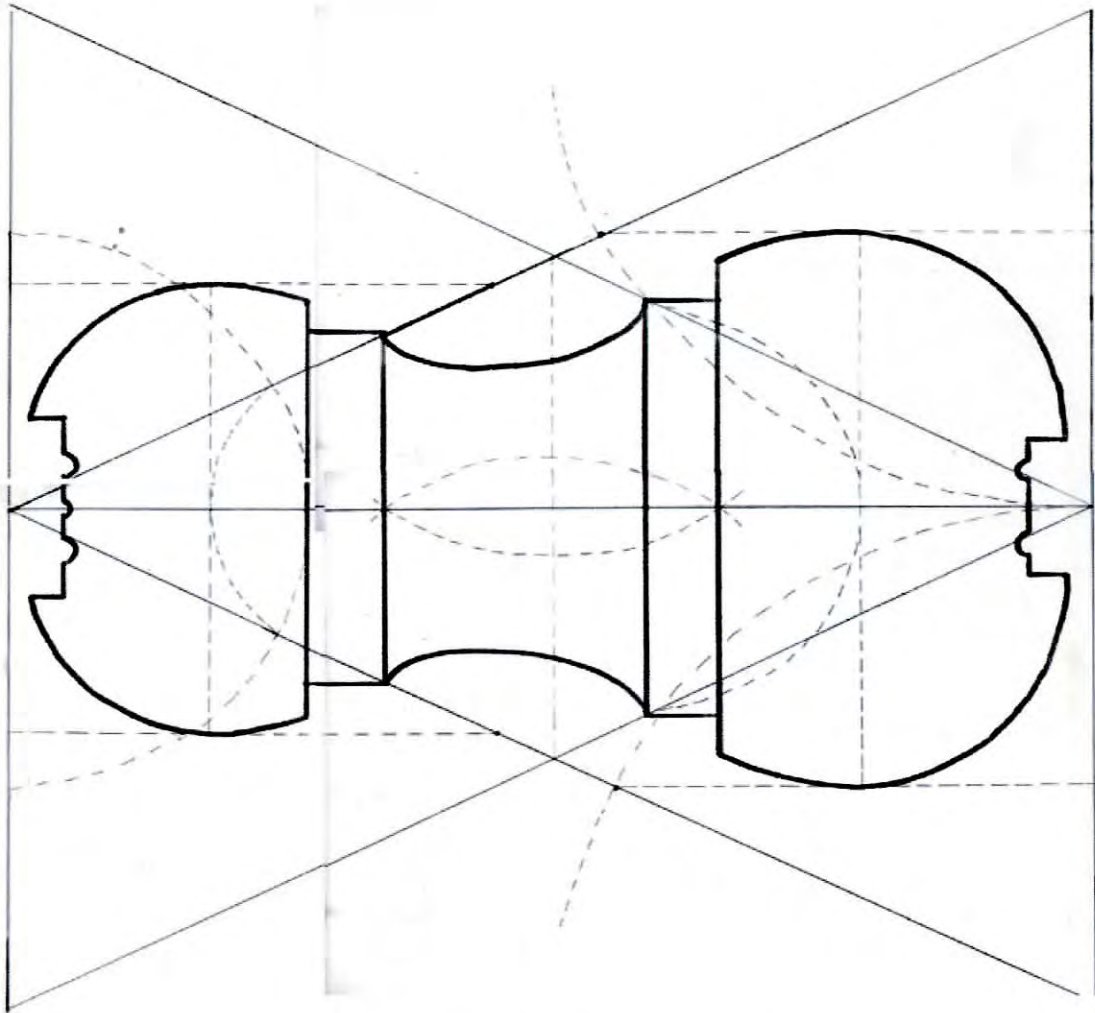
## Poetic Analysis of Oboe ( Wind Instrument )



# Poetic Analysis of Xylophone ( Percussion Instrument )

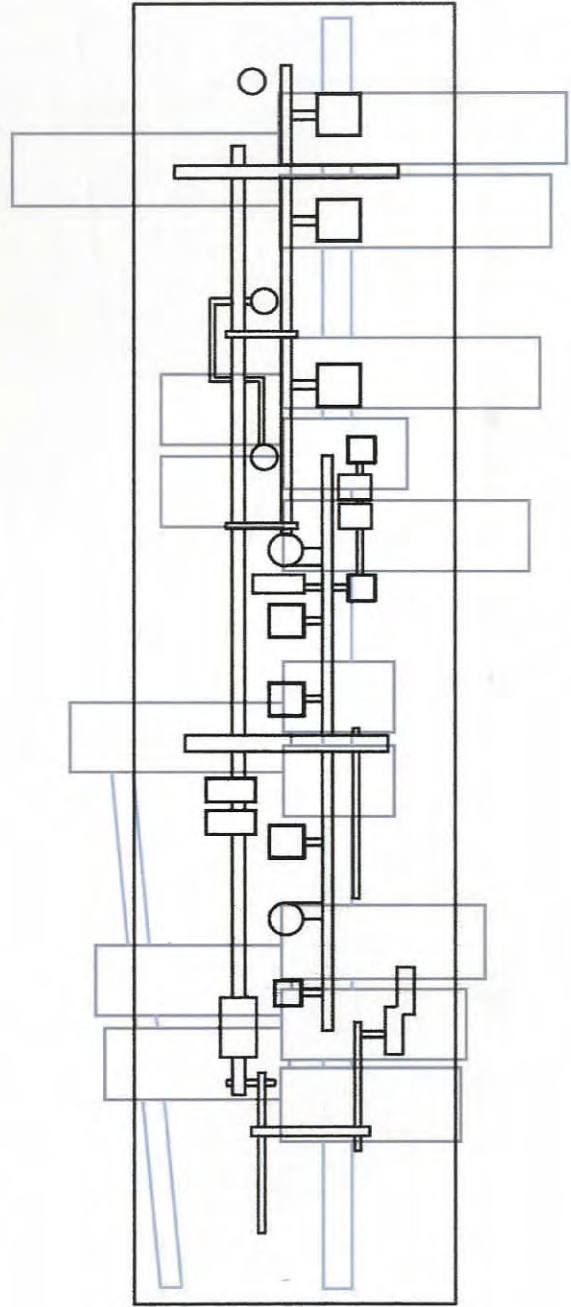
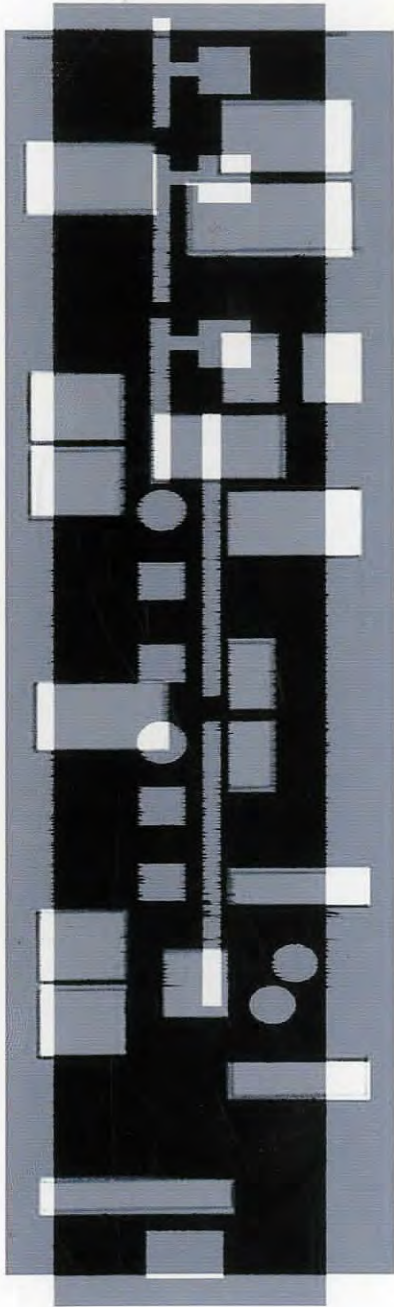


**Violin**  
**String Instrument**





# Overlay of Instrument Diagram



# **ANALYSIS OF BELLA BARTOK'S MUSIC THEORY**

# Bella Bartok's musical theory

## Musical theory with visual character

### *Bartok's innovation for music composition*

The reason why I chose the Bella Bartok's music theory is that he applied diverse visual character in his composition. Moreover, he synthesized and hybrid different kind of 20th century's music theory with 'tonality' which means tonal relations of some kind or another are and essential framework for any construction of tone which can be rightly considered as a work of musical art.

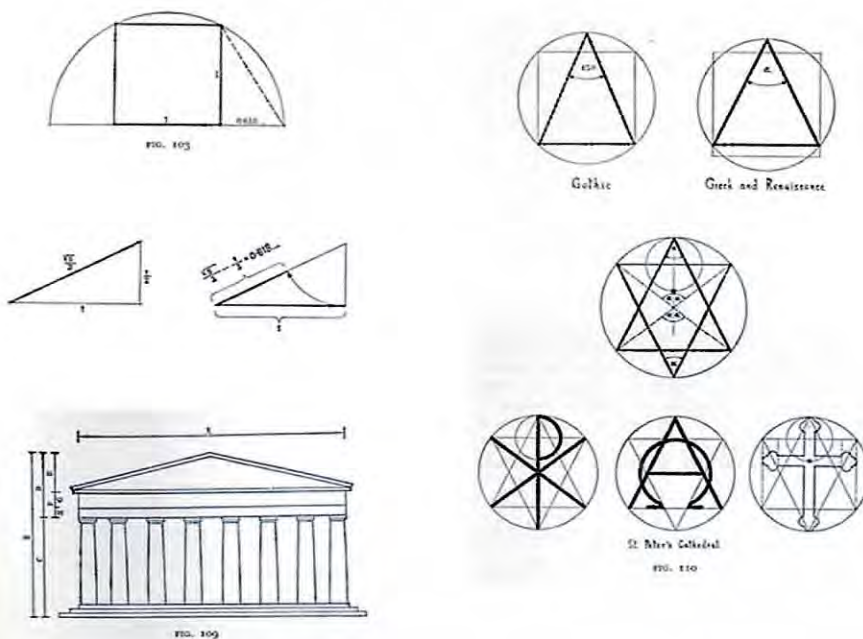
His music can be categorized with three ideas.

- a. *Golden Section*
- b. *Fibonacci Series*
- c. *Axis System*

### **Golden section**

He was the first musician applied the visual and historical Golden section to his music.

He integrated all the elements of music: the scales, the chordal structures with the melodic motifs appropriate to them, together with the proportions of length as between movements in a whole work, main divisions within a movements such as exposition, deelopment and recapitulation and even balancing phrases within sections of movements. All of these came from the on single basic principle, that of the Golden Section.





GS (Golden Section) : 0.618...  
 Construction Method of form and harmony

*Character of GS*

The centre of gravity in the movement & Recapitulation start precisely at the GS

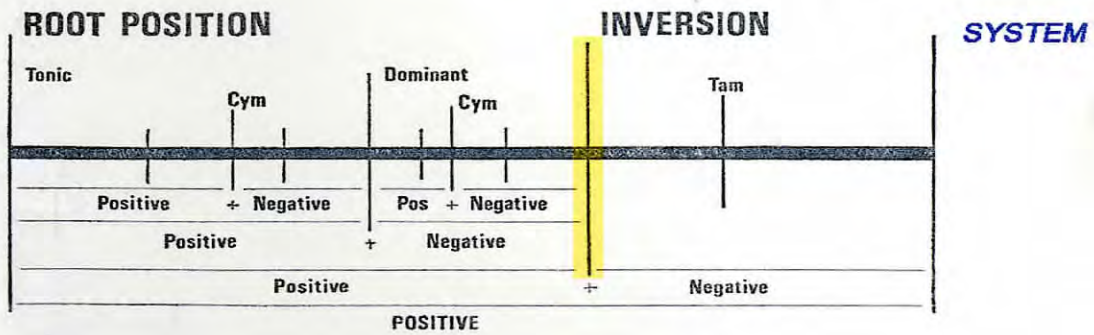
GS always coincides with the most significant turning point of the form.

Positive : long section followed by the short section

Negative : short section followed by the long section

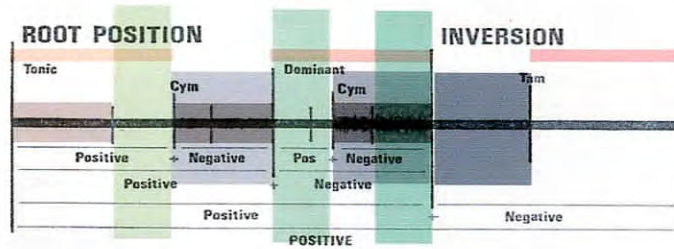
Positive Section : intensification and dynamic movement  
 primary material use

Negative Section : falling, subtraction, and disperse

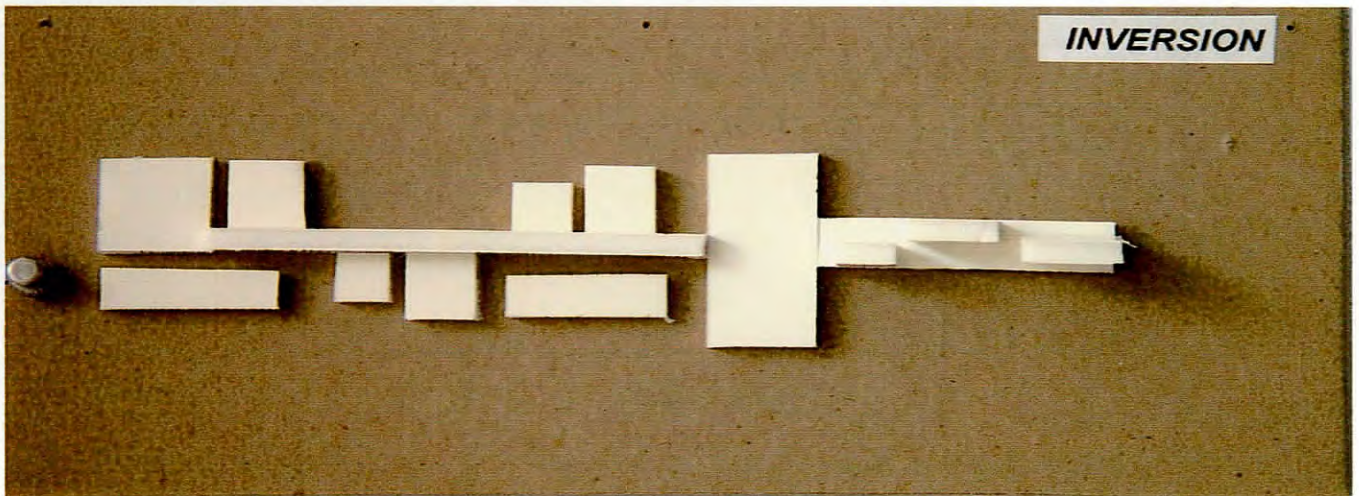
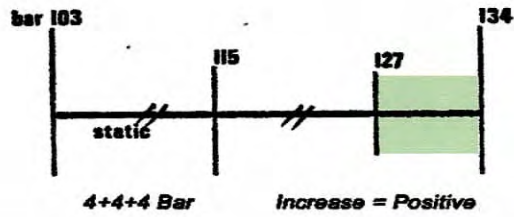


**Inversion** : Proportion changes after GS line.  
 Significant mutation of form and relation with whole proportion

**Mirror-Image between positive and negative & Repetition**



**Symmetrical-Image & Growth of proportion**



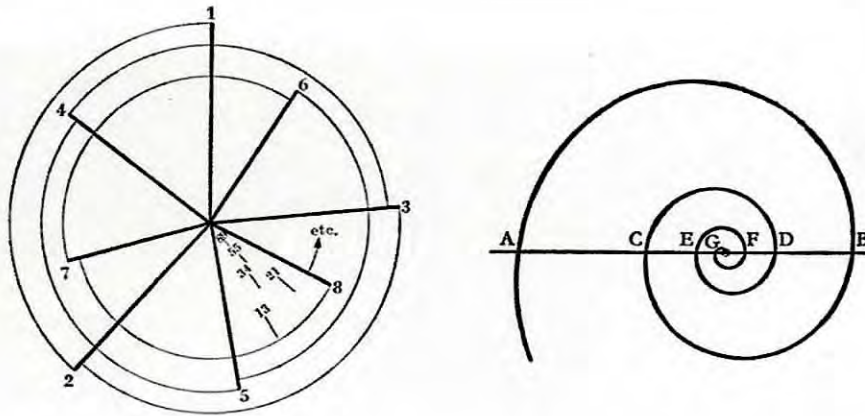
## Fibonacci Series

Sequence that every member is equal to the sum of the two preceding member...

2, 3, 5, 8, 13, 21, 34, 55, 89...

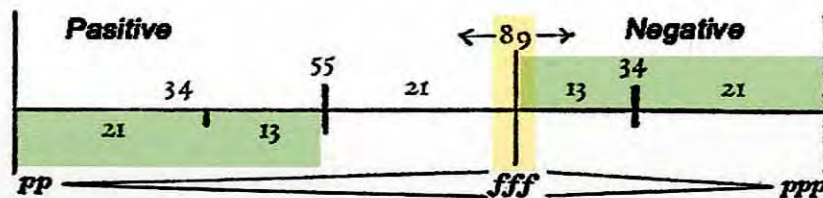
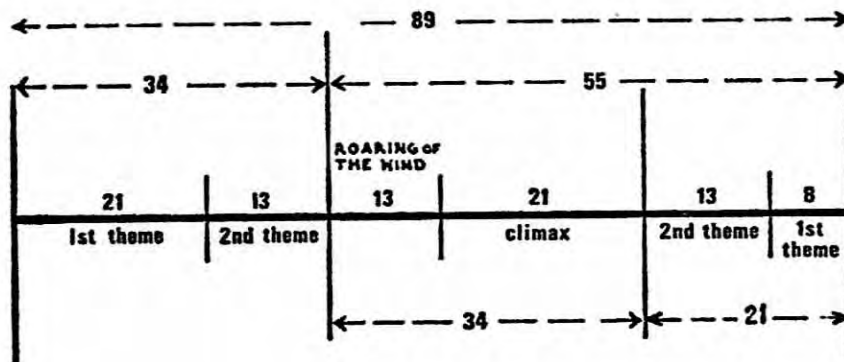
(A + B, A < B)

Similar number to GS



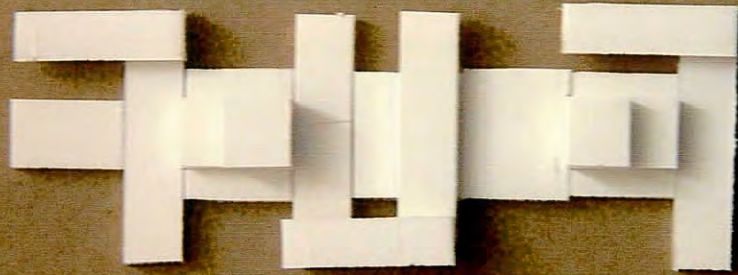
## Mismatch

Fibonacci series reflect : The Law of Natural Growth

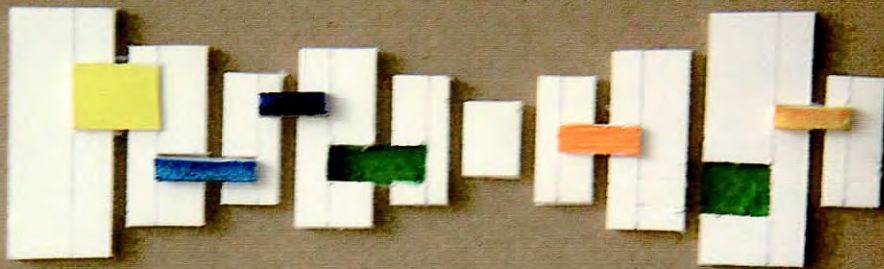




G.S  
MIRROR IMAGE & REPETITION



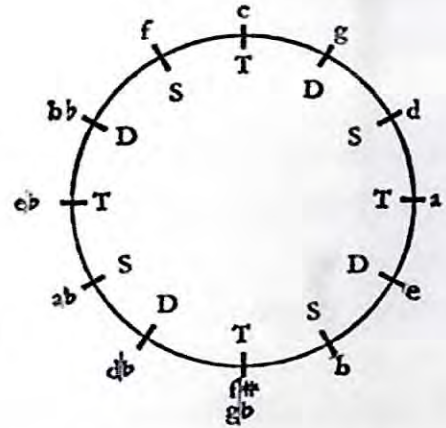
MISMATCH & GROWTH



# Axis system

## Primary features

- a) The functional affinities of the fourth and fifth degrees
- b) The relationship of relative major and minor keys
- c) The overtone relations
- d) The role of leading notes
- e) the opposite tension of the dominant and subdominant

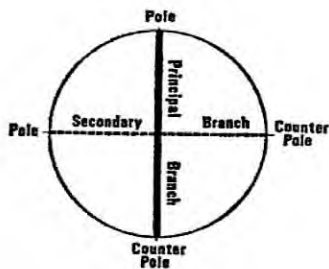
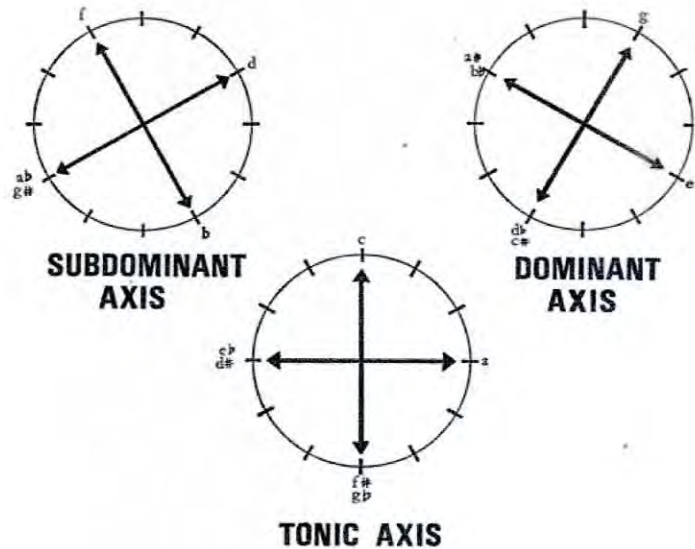


This axis system basically represented how to compose and group the music pattern. According to his analysis, the axis system has hierarchy among the harmony of music.

Tonic : Primary function

Dominant : Secondary function

Subdominant : Service



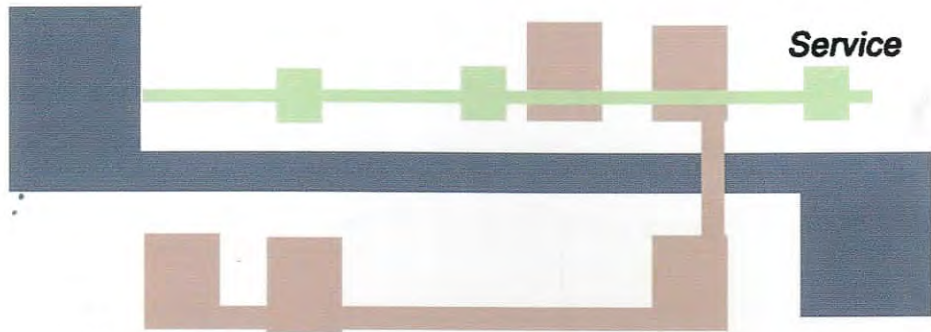
Consequently the components of the axis system are as follows:

- pole — (no dimension)
- branch = pole + counterpole (1 dimension)
- axis = principal + secondary branch (2 dimensions)
- axis system = T + D + S axes (3 dimensions)

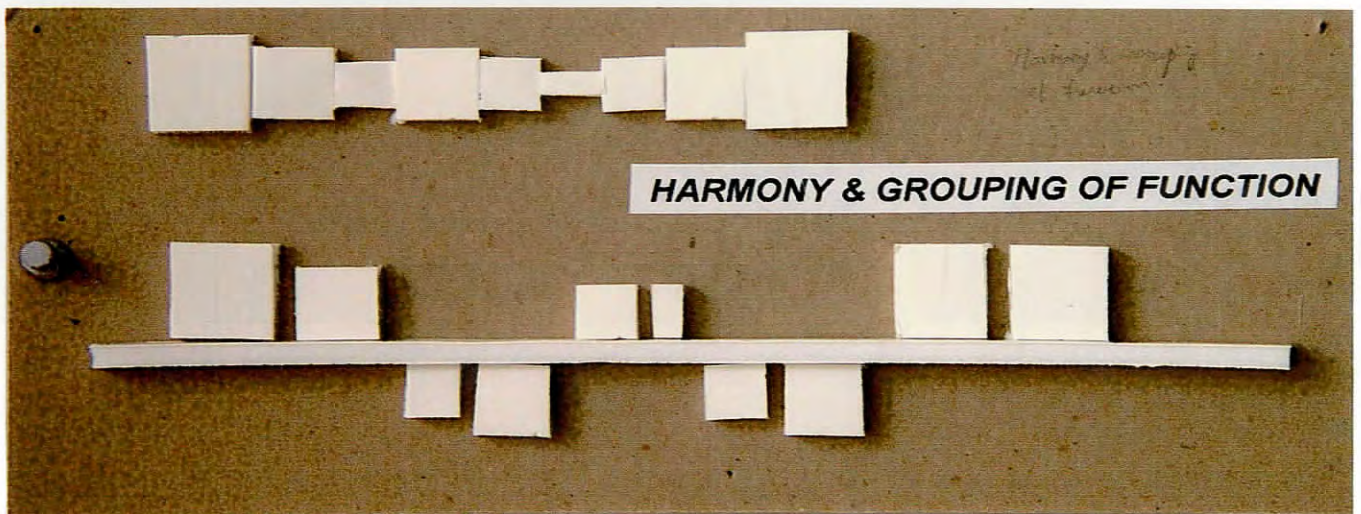
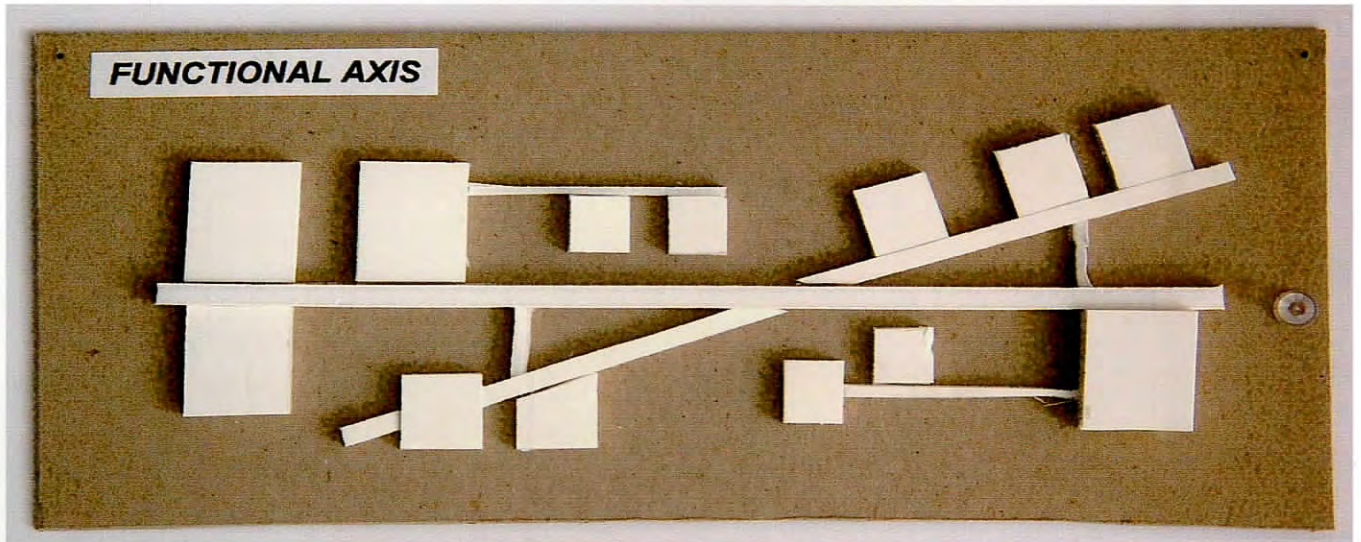


# Harmony and Grouping of each function

Primary



Secondary





## **SITE DESCRIPTION**







## Site description

**Site:** Part of Highline in New York city, NY

### Context of Site

#### High line

The site context is the High Line, an elevated rail structure running from 34th Street to Gansevoort Street along the Far West Side of Manhattan in New York City.

The rail structure is approximately 1.45 miles long and generally runs 29 feet above the street. The line is constructed of steel and topped with a reinforced concrete deck, gravel ballast, and metal tracks and handrails. It is not currently in use, and it is closed to traffic and public access.

The High Line runs through three neighborhoods that formerly were centers for transportation and industrial uses: The Hudson Rail Yards area, Far West Chelsea, and the Gansevoort Meat Packing District. The context reflects this heritage, with a building inventory that includes many garages, factories, and warehouses.

The area is now under significant redevelopment pressure and has begun to change in character. Over the past 15 years, Far West Chelsea has become an international art-world hub, with many of the galleries that once clustered in SoHo moving into warehouses and loft buildings between 20th and 29th Street, west of 10th Avenue. At the southern end of the Line, many meat processing factories in the Gansevoort Meat Packing District have been replaced by designer boutiques and destination restaurants. At the northern end of the Line, the City has begun a coordinated redevelopment initiative that may include a substantial new business and residential district, as well as a multi-use sports and entertainment facility. Running roughly parallel to the High Line—directly adjacent in the area between 34th and 30th Streets, and one to two blocks away from the Line south of 30th Street—is the Hudson River Park, currently under construction in stages.

The High Line was built to support two fully loaded freight cars, and studies indicate it remains structurally sound.





## Hudson Yards Today

Today, Hudson Yards is the only large, underutilized area where Midtown can expand without encroaching on densely built-up residential communities.

The Hudson Yards area encompasses 360 acres of land. The amount of land devoted to open space is .5% which is extremely low when compared with other areas of Manhattan.

There are several distinct corridors within the Hudson Yards area. There is 42nd Street, 9th Avenue and its residential core, 34th Street and the superblocks, the 10th to 11th Avenue corridor, as well as the area south of the MTA Rail Yards.

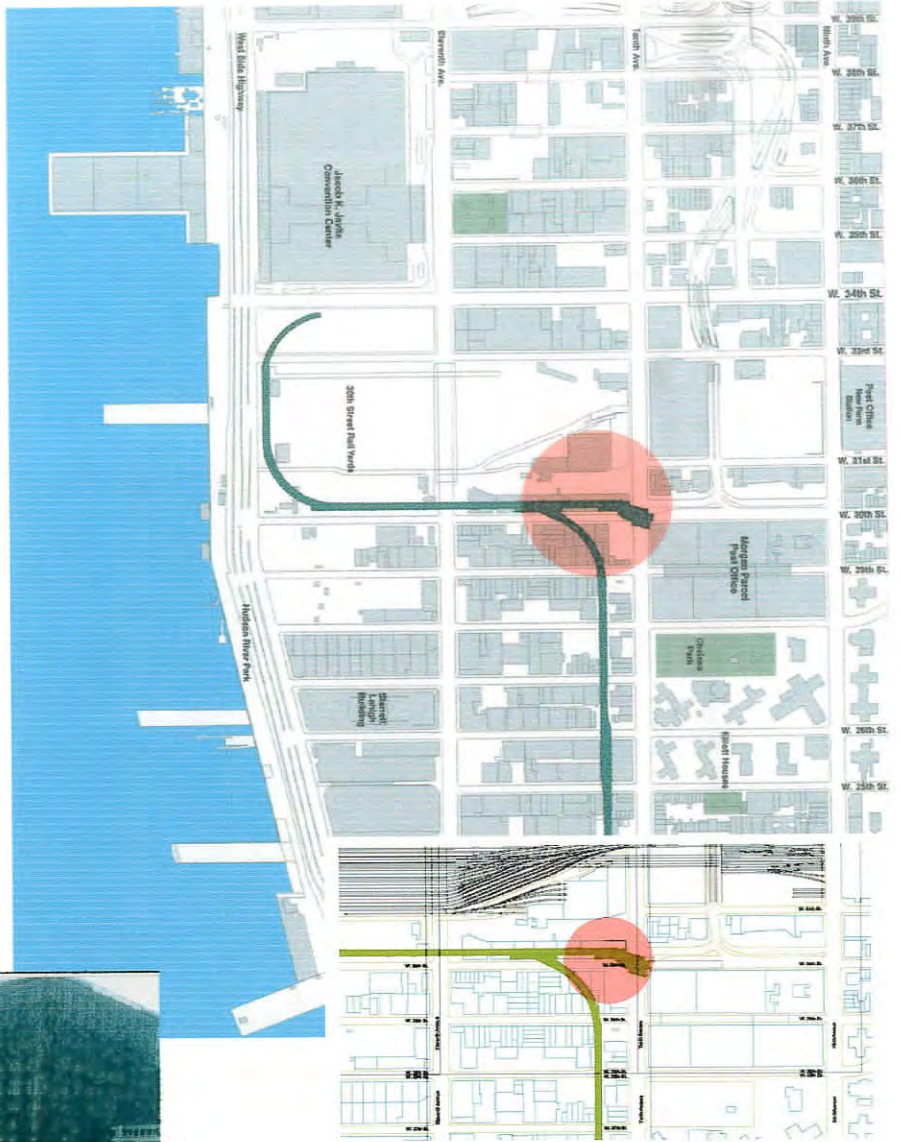
Currently, less than 150 housing units are located west of 10th Avenue between West 28th and 41st Streets, and a large portion of this area is occupied by open parking and utility storage lots. This area provides the greatest opportunity for redevelopment.





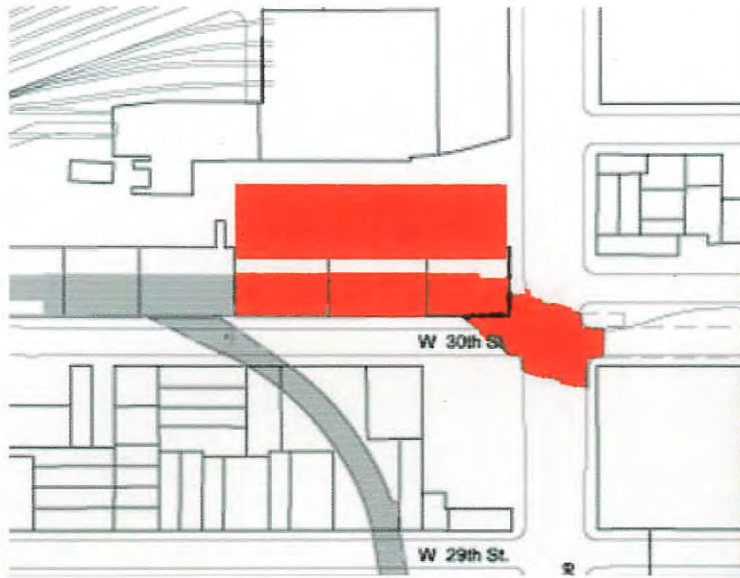
## Proposed site

Proposed site is part of the Highline located between 10th and 11th Ave from West 30th St. The site characterized by low intensive commercial and industrial uses, such as warehouses, parking, and vehicle storage. This unused part of the Highline will be the thesis site. Probably, the building will occupy on the highline and its facing block which is now parking lot.

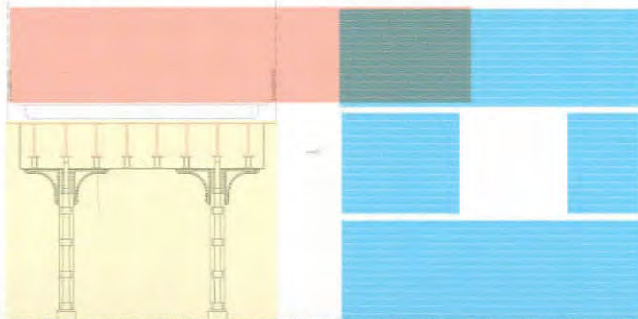




**Proposed Site**



**Section of site**





**SITE ANALYSIS**

## Land Use in context of High Line

### Residential

West of 10th Avenue, residential buildings are limited by the manufacturing-based zoning designations. The exceptions are: a few mixed-use tenements. Mostly between 23rd and 30th Streets, that include residential units: luxury-lofts in converted industrial buildings on 22nd and 23rd Streets: and new residential construction on 23rd and 24th Streets, permitted by the 1999 MX-3 zoning. The most significant blocks of housing are east of 10th Avenue.

Fulton houses and Elliott-Chelsea Houses  
: Lower-income residents  
London Terrace : 18 stories for rent  
The Chelsea Historic District  
: Neighborhood of townhouse  
Penn South :2,820 units, Senior citizens

### Retail

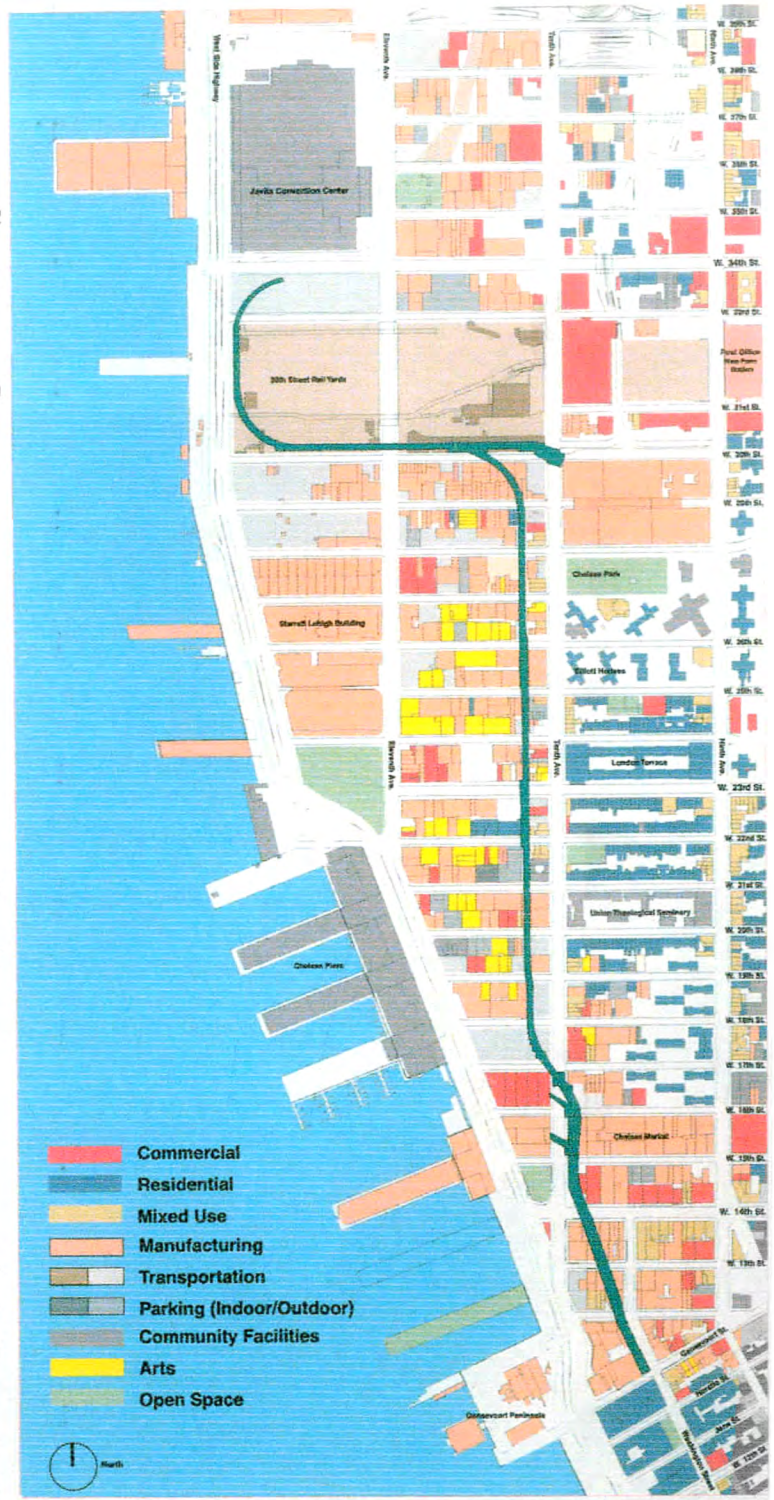
Retail establishments are found primarily on 10th Avenue and in the Gansevoort Meat Packing District, bounded roughly by 15th St and the West Side Highway. Because 10th Avenue lacks a cohesive run of storefronts, its retail uses—restaurants, mostly—are dispersed without a zone of concentration.

### Arts

The Chelsea Arts Guide lists 154 galleries between 13th and 29th St, West of 8th Ave. In addition, there are several not-for-profit art institutions in the High Line area, including the Kitchen, the Dia Center for the Arts, and Eyebeam Atelier. The Kitchen and Dia have been in the neighborhood for over ten years, but most of the galleries are newer: the majority are less than 5 years old. Streets that used to be deserted on weekends now are crowded with visitors. Many ground-floor spaces are occupied by prominent art dealers who have purchased their buildings, while upper stories of larger warehouse and factory buildings tend to be rented by smaller or newer galleries.

### Industrial / Manufacturing

Industrial and manufacturing uses are still a significant part of the business community surrounding the High Line. On weekends, many industrial or manufacturing sites are dormant, leading some casual visitors to underestimate their continued vitality in the neighborhood.





## Commercial / Office

During the late 1990's, new media companies made the High Line area one of Manhattan's most popular real estate markets. The Starrett-Lehigh Building, the Chelsea Market Building, and the Port Authority

Inland Terminal all took on new media tenants, including Martha Stewart Living Omnimedia, BarnesandNoble.com, and Oxygen. Internet companies, design studios, photography studios, and fashion showrooms inhabit buildings throughout the High Line district.

## Community Facilities

The neighborhood boasts a number of community facilities between 9th Ave. and the Hudson River. These include: the General Theological Seminary, the Hudson Guild, Chelsea Piers, the Jacob K. Javits

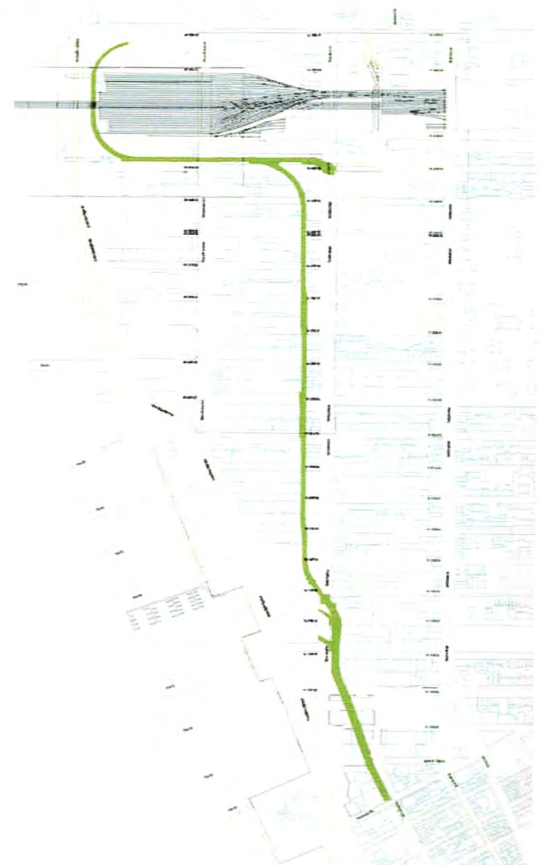
Convention Center, a correction facility, three churches, a recreation center, and public school.

## Transit Yards

The Long Island Rail Road occupies the 30th St. Rail Yards, from 30th St. to 33rd Street, east of 9th Avenue, using it as a storage and maintenance facility for trains running from Penn Station.

Penn Station, between 8th and 9th Avenue, from 31st Street to 33rd Street is also served by Amtrak and New Jersey Transit trains. The A, C, and E subway lines run down 8th Avenue parallel to the High Line.

There is ferries from New Jersey dock at 38th Street, just north of the High Line terminus.





## Replacement of Highline( by New York city renewal plan)

Over the last two years, the movement to preserve and reuse the 22-block-long High Line elevated rail structure has received widespread coverage in the national press and has become a rallying point for New York's elected officials, community organizations, and civic groups. Now, for the first time, architects, landscape architects, designers, planners, artists, horticulturalists, and community members are invited to create visionary design proposals for the structure's reuse as an elevated, 1.5-mile-long public promenade.

The conversion of the High Line to public open space will be a reclamation of urban transportation infrastructure unparalleled in this country. Once the upper deck is opened to the public, residents and visitors will be able to walk 22 blocks through the city without ever encountering motorized traffic. Starting at the Hudson Rail Yards area, where neighborhood features include the Jacob Javits Convention Center, the Hudson River Park, and the new Penn Station site, and where a #7 subway extension and a multi-use sports and entertainment facility have been proposed, pedestrians can move south through the art galleries and warehouses of West Chelsea into the Gansevoort Meat Packing District. Old buildings and new will relate to an elevated public space that offers views of New York unavailable from any other vantage point. Inventively reconceived, the High Line will encourage design innovation and at the same time become a defining element of its rapidly changing





# Master Plan: Preferred Direction (by New York city planning, Feb 2003)

## Hudson Yards Design Principles

### 1. City Expansion

Advance metropolitan growth in a great new place that embodies the energy and the optimism of New York City.

### 2. Mass Transit

Extend the Number 7 line to provide seamless and efficient transit access.

### 3. Open Space System

Celebrate the area's infrastructure and districts by knitting them together with a system of parks and open spaces of different scales and programs that provide identity and create value.

### 4. Pedestrian Paths and Access to the Waterfront

Streets and paths that encourage walking to and within the area, with a particular emphasis on major new pedestrian routes to the waterfront.

### 5. Architectural Character and Design Excellence

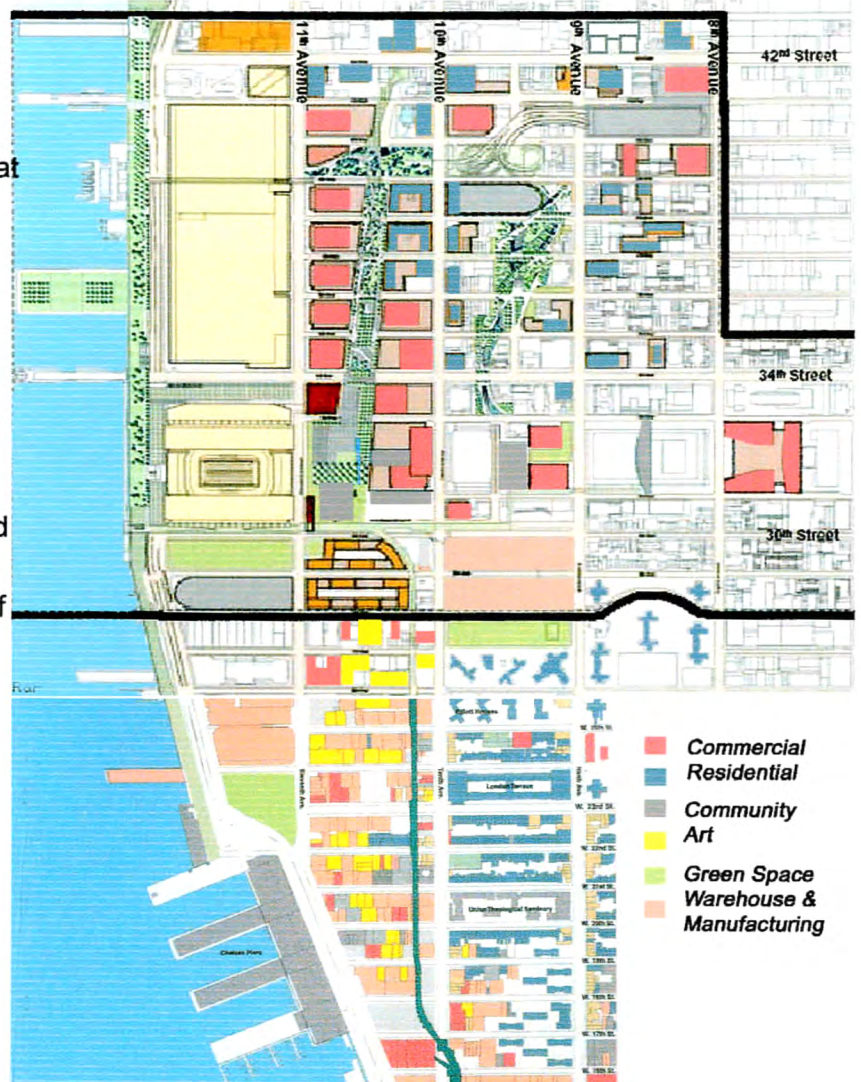
Encourage architectural design that contributes to the city's skyline, integrates different scales and building types, and promote Hudson Yards as a model of innovative architecture and design excellence.

### 6. Active Public Buildings

Activate the street presence of major public buildings including the Javits Convention Center, Penn Station, the Port Authority Bus Terminal, and a potential new multi-use facility for sports, entertainment and exhibition.

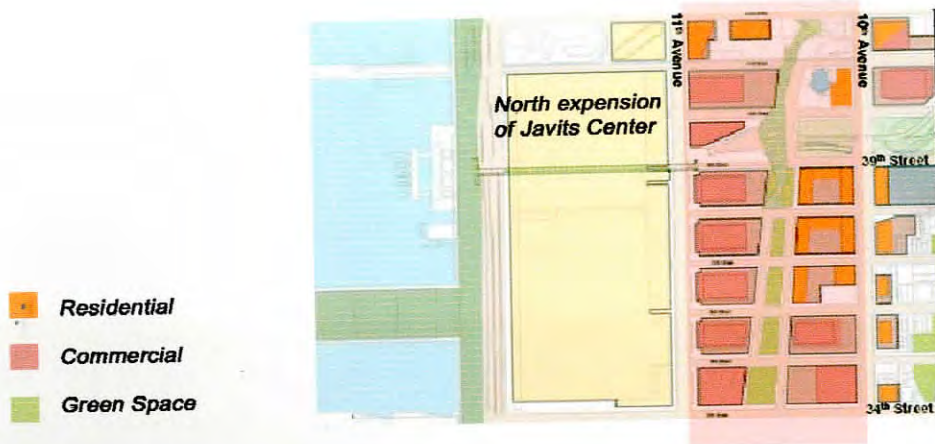
### 7. High Performance Environment

Encourage high performance environmental design at the scale of the building and the district, with the goal of making Hudson Yards a model of sustainability for cities nationwide.



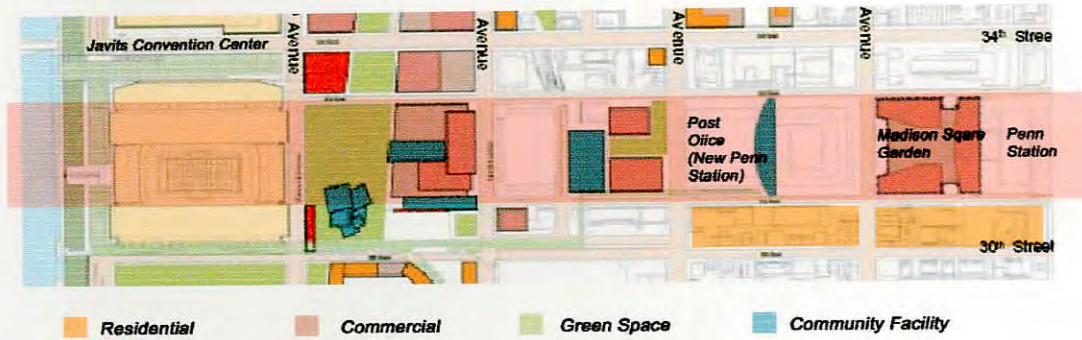


## 10th Avenue to 11th Avenue Corridor



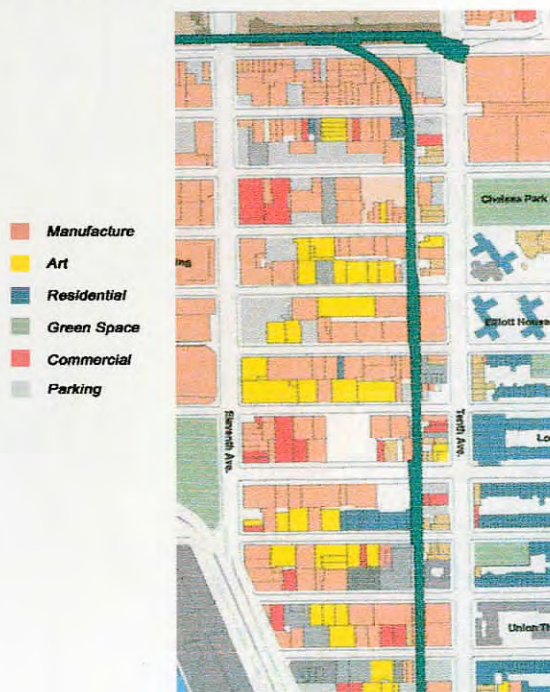
## 34th Street Corridor

Large scale development due to Central location and superblock of MTA rail yards  
Link with major transportation hubs.

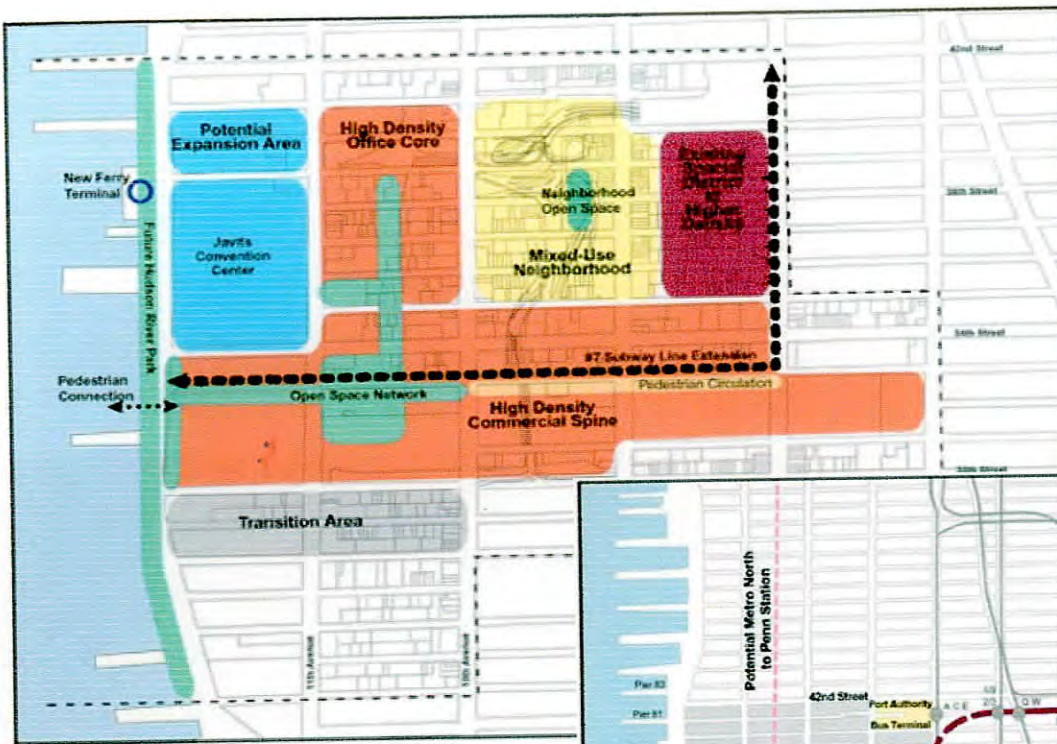


## Highline Promenade

Transition of the landuse from  
Industries & Manufacture to Art galleries, commercial and Residential



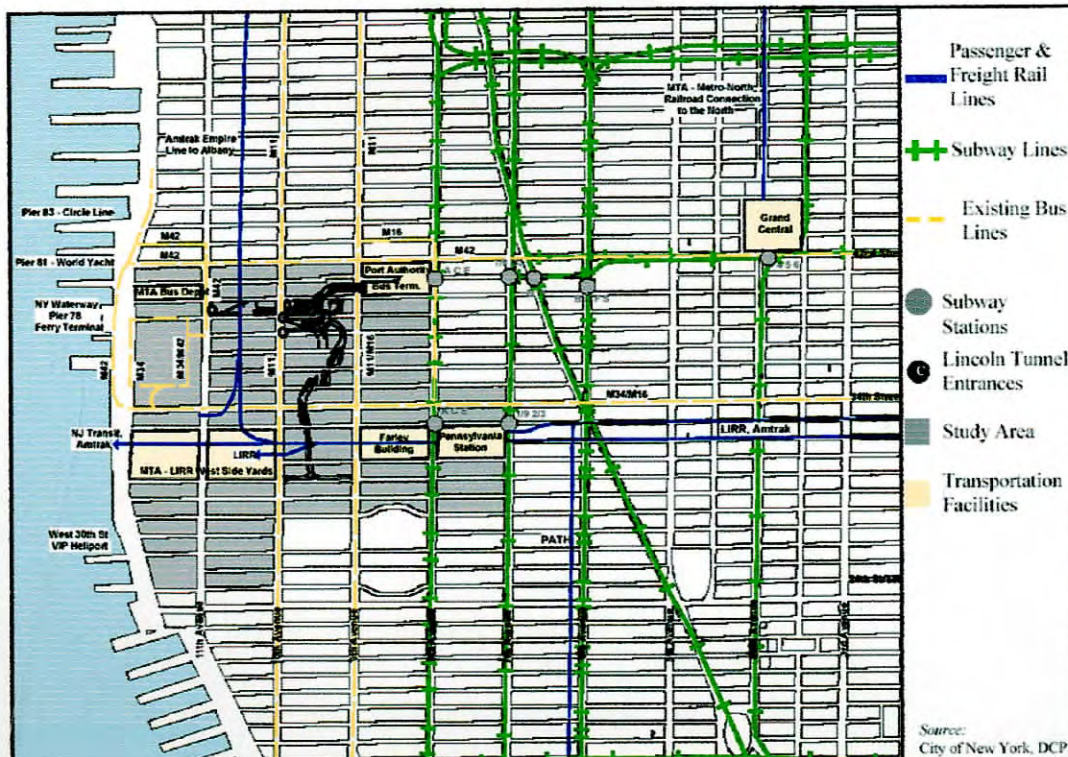




Conceptual Development Framework



Proposed Large Scale System Improvements

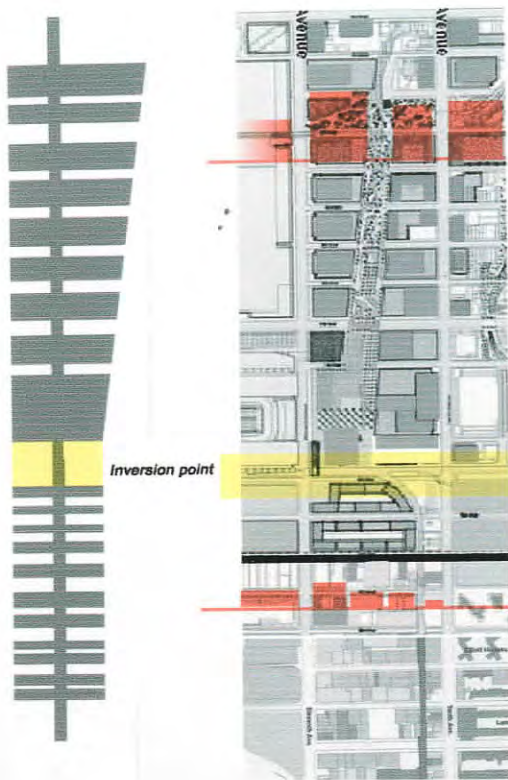


Source: City of New York, DCP

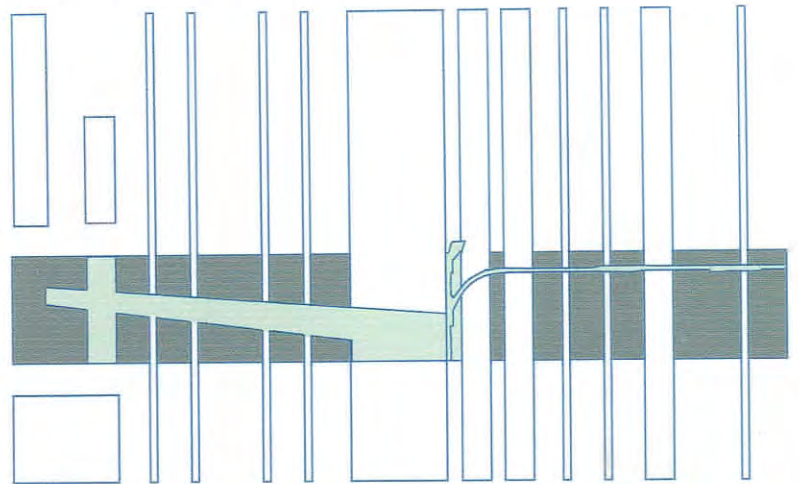


# Typology of the site

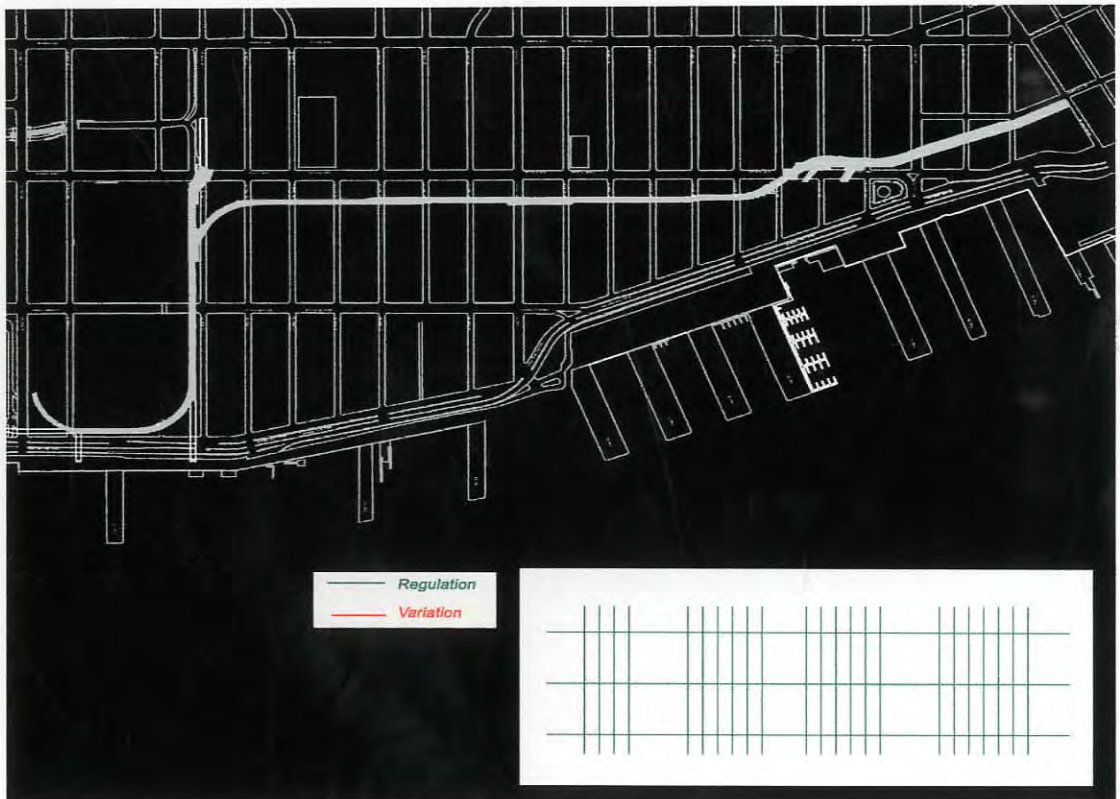
## Inversion of Scale & Proportion



## Regulation & Variation #1



## Regulation & Variation #2





# **Program outline & Description**

**School of Crafting Instruments**

## Program Outline

Although the context of the site has lots of hybridities in terms of programatic issue, the program of the thesis is more monolithic. The hybridity will occur within a form of the building and materials, not just programs. However, the program must serve several functions for the public realm to the city as well as the private realm to the its own program because of delication of site location.

A School of Crafting Instruments is the program that I am choosing for the thesis. It consists of public space that open to the public and educational facility. The gallery and commercial space serve the major public and they are served by the public. The school serves the aspiring student and it is served by the its own students, on a more private level. Development of the perimeter of the site at the lower level with gallery, commercial space and open yards allow to share with city and allocate to the public. The ground level could be the part of the public domain and superimposed with Hudson Yards Master plan. As a part of the school program, there are houses for student which seperate from the main building. The gallery will use exhibition space for local arts communities and exhibit of instruments for student's works. The commercial space and the public space can dialogue with facing open green square in the future.

This new type of institution building has many different requirements. The major requirements can be devided into couples of categories; classroom, workshop, testing room(performance), administrative and service. Each of these categories has a number of elements within them and they overlap at specific place. The character of the school is sightly different with that of general standard school. It is similar to Fine Arts school but it also has unique characters which are more like Music school. Therefore, The school has synthesized character, which is same aspect as the character of Instrument itself.

### COMMERCIAL

Retail shop (3).....	18,500 sf
Storage (2).....	4,000 sf
Service.....	1,200 sf
<b><u>Subtotal</u></b>	<b><u>23,700 SF</u></b>

### GALLERY

Entrance lobby.....	1,800 sf
Reception	
Security	
Coatroom	
Restroom	
Administration.....	1,000 sf
Curator's office	
General office	
Exhibition.....	6,000 sf
Exhibit Space	
Storage	
Security	
<b><u>Subtotal</u></b>	<b><u>8,800 SF</u></b>



## INSTITUTE

### School for 200 student

Lecture room Type1.....	1,200
sf	
Type2.....	625 sf
Classroom Type1 (4 @ 500 sf).....	2,000 sf
Type2 (2 @ 600 sf).....	1,200
sf	
Studios / Workshop (6 @ 1,200 sf).....	7,200 sf
Student lounges (2 @ 500 sf).....	1,000
sf	
Reading room.....	1,500 sf
Reserve stacks	
Librarian office	
Book storage	
Food pantry.....	1,800
sf	
Kitchen	
Serving area	
Beverage area	

### Administration

Reception area.....	250 sf
Dean's office.....	400 sf
General secretarial.....	500 sf
Faculty offices (12 @ 100 sf).....	1,200 sf
Additional office.....	500 sf
Faculty lounge.....	400 sf
Seminar rooms (2 @ 500 sf).....	1,000 sf
Office storage.....	200 sf
Restrooms.....	A.R
<b><u>Subtotal</u></b> .....	<b><u>21,975</u></b>

**SF**

### RESIDENTIAL

Student Singles (30 @ 150 sf).....	4,500 sf
Doubles (40 @ 200 sf).....	8,000 sf
Lounge areas (2 @ 350 sf).....	700 sf
Laundry (2 @ 200 sf).....	400 sf
Restrooms.....	A.R
<b><u>Subtotal</u></b> .....	<b><u>14,400</u></b>

**SF**

### **TOTAL**

**68,875 SF**

Circulation @ 20%.....	13,775 sf
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### **GRAND TOTAL**

**82,650 SF**

Total available sf/floor.....	32,600 sf
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## **Program Description**

### **Commercial**

Consisting of a various commercial flow. The ground level is merged with Hudson Yard development. It can be restaurants or cafe, supply store, bookstore, and dealership where student and professional artwork is sold.

### **Gallery**

#### Entrance Lobby

Main gathering space where the public convenes, then disperses throughout the building to various functional spaces. A focal point of general interest providing information about the exhibition of gallery, lectures and specific program linked with the institution.

#### Exhibition Space

Exhibitions of local arts communities, faculty and student works. it is located under the existing High Line structure.

### **Institute**

#### Administration

Private office space for the Dean and his assistants, including offices for permanent faculty and teaching assistants. Supporting meeting spaces will be part of it them to allow student interaction with the faculty.

#### Lecture Hall

To seat at least 60 students for classes, lectures and meetings.

#### Studios

Various necessities for the different arts : Percussion Instrument Studio

Wind Instrument Studio

String Instrument Studio

#### Student Lounges

General gathering spaces integrated with the studios and classrooms for students to meet and to talk for break from studio. A place where students from different studios can get together and to share ideas.

Reading Room : Private collection limited to faculty and students. Consisting of reading area, stacks, and small office.

### **Student Residences**

Units for the aspiring students and some of faculty who need convenient and inexpensive housing. Lounge areas are a more communal space adjacent to unit, complete with Kitchenette, for the residents in a social setting.



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NYC Department of City Planning's Hudson Yards website

New York City Department of City Planning's website