BOSTON GARDEN AND NORTH STATION AREA:
Building the Architectural Infrastructure for Development

by

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B. S. in Art and Design
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submitted to the Department of Architecture
in partial fulfillment of the requirements for the Degree of
Master of Architecture at the
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Abstract

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In recent years, the advancement of structural technology, the accumulation of capital, and legal manipulation of land ownership have made available for development air rights parcels above existing buildings and, in particular, transportation systems. Some cities, including Boston, have chosen to develop these air right parcels after development had exhausted all downtown real estate. These parcels above transportation systems, such as highways and railroads, are by their nature very large. Unfortunately, these large tracts of land have often attracted singular, overscaled buildings which are isolated from the surrounding downtown fabric.

In this thesis, attempts are made to design the architectural infrastructure for development—one which allows for continuity and variety based on the hierarchical organization of spaces, buildings, and their sizes.

Boston Garden and the North Station Area is the project site. An open-ended infrastructure is designed for development of a mixed-use district.

Drawings and photographs of models are used to illustrate design concepts and processes.

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Introduction

Society can be defined as "people in communication." A good physical environment is one which fosters communication among the members of the society.

In addition to the popularity of suburban living and the increasing specialization of work, the advancement of communication technology (radio, television, telephone, express mail etc.) has yielded increasingly few opportunities for personal communication among individuals of the society. Many businesses can be conducted by mail and telephone, shopping for goods can be done likewise, news and information can be received through television and radio. Thus, much of living and working can theoretically be done at home. This seemingly irreversible tendency for loss of personal communication has been alienating the individual from the society for some time.

I consider this alienation of the individual from the society as a larger whole as the most serious problem we face in the late twentieth century, the information age. Such alienation causes the individual to lose sense of responsibility toward the society and to consequently act irresponsibly. The effect of this has been seen throughout the 1980's in many ways: rising crime rates, drug problems, insider trading, environmental pollution, etc..

This irresponsible attitude towards society has profoundly affected the field of architecture significantly. During the 1980's we saw the emergence of two major architectural styles, post-modernism and deconstructivism, which has generated a countless number of absurd discussions about "style" throughout the decade. In both cases, architects designed superficially radical buildings, critics applauded them for being different, and many other architects and students copied them largely because the styles were easy to emulate. Architects practicing in this manner have not only chosen to ignore the problem of alienation, but have actually contributed to it. Their buildings all too often stand alone as sculptural objects, making little gesture to the larger world outside their own. In fact, the sole problem which they seem to be
addressing is one of aesthetics which is far from being a primary concern to the welfare of our society. Architects in this country often ask why they receive so little reward for their work. To answer this question, one only needs to realize that it was the architects themselves who in recent years have made the profession dispensable by reducing their work to that of plastic art.

As we move on to the 1990's and the next century, communication technology will surely continue to advance and its ramifications will become more widespread, furthering the process of alienation.

In this context, I believe that architecture can and must become a responsible social activity which is of far more human importance than it has lately been presented by the profession. Architecture by its nature is responsible for the design of the physical environment in which the multitude of personal communication takes place. Architecture may never save the world; however, architecture has the power to fight alienation. As opportunities for personal communication diminish with the advancement of technology, architects and urban designers must provide an increasingly varied range of physical settings for communication in the built environment. Maximizing the options of collective spaces available for communication will facilitate human interaction including spontaneous and casual exchanges.

The necessity for a wide range of spaces for communication is apparent. However, without a clear system of relationships among them, the built environment will only be chaotic. In order to bring an understandable order to an environment comprised of buildings and spaces of different sizes and situations, a system of hierarchical organization must be adopted.

We must build a whole range of collective spaces varying in size and degree of privacy (room size to landscape size). Then the spaces can be hierarchically organized in such a way that each collective space at all levels of the hierarchy is connected to spaces at two adjacent hierarchical levels (both above and below). This situation provides the individual at the lower end of this
010
hierarchy the continuity of ever-expanding communal groupings. Through this web of associations, the individual can once again be integrated into the whole society and its physical environment.

Seen in this light, the essence of architecture and urban design is the ordering of the built world. Our task is more scientific than artistic, and more objective than subjective. This is particularly true for large-scale urban interventions. However, what make some of our greatest urban environments wonderful is not only their logical spatial structure, but also the harmonious variation among the individual buildings in the city which is made possible by clear establishment of the collective theme. A good example of this is Boston’s Back Bay, where the formal structure for the variety of rowhouses was established by the lot size, and the regulations governing building height, setback, bay window size, etc.. Once such a formal structure was defined by one certain power and its designer, the design responsibility for the individual rowhouse was passed down to its user. The user in turn hired his own architect to design one of the variations of the theme suitable for his own purpose and inclination.

The delegation of responsibility from the higher power to the user is a sign of faith in the individual to act responsibly within his social context. Thus the individual again becomes engaged in the society and its physical environment by accepting responsibility for his own physical environment and its architectural expression.

Large urban projects today have demonstrated the tendency to ignore the lessons of our cities. All too often such projects produce singular and overscaled buildings alien to the individual and the surrounding city. Sometimes one of these buildings is comparable in total floor area as all the buildings of a typical Back Bay block combined. However, its form is still determined by a single power, the project architects. Rarely do such projects leave any room for individual expression of the user beyond that of interior decoration and "office landscape."
For a long time since the 1950's, Miesian nothingness dominated the architectural scene, perhaps due to its inherent design expediency. Architectural form suppressed individual differences behind the facade through the use of uniform repetition for the sake of collective unity. In the 1980's postmodernism brought differences among the buildings by introducing a range of exterior decoration. However, much of the postmodern decoration was equally indifferent to the building's inhabitants.

Counter to this attitude, we can approach the design of a large urban project by thinking of it as a three-dimensional infrastructure of building lots. Just as in the Back Bay example of building lots and rowhouses, first the infrastructure is laid out, and secondly it can be inhabited by subordinate structures designed by the users and their architects. This introduces into the project complexities and richness based on variations among the individual architectural expressions of subordinate structures. The difference here is that, as opposed to the traditional notion of building lots laid out on the ground, these building lots are physically built in space in order to maximize density without sacrificing light and air.

It is my belief that this three dimensional infrastructure, of building lots combined with the hierarchical network of collective spaces, would yield a new kind of urban environment rich in association and variation.
The Site

Situation

This aerial photograph shows the Boston Garden, the North station area, and Bulfinch Triangle in the center. The photograph is oriented so that the top of the page is due north.

There are two important landscape and landscape-sized features around the Boston garden and the North Station area (hereafter referred to as "the site"): Charles River which flows from west to east toward Boston Harbor, and the interstate highway 93, or "Central Artery," which runs roughly orthogonal to the Charles.

The site is surrounded by several clearly distinct districts: Charlestown (residential) to the north across the Charles River, the North End (historic, high density mixed-use) to the east across the Central Artery, Bulfinch Triangle (semi-historic, industrial/commercial), Government Center (modern, governmental) to the south, the West End (mid-20c. urban renewal, residential) and Beacon Hill (historic, residential) to the southwest.

Two major urban projects under consideration by the city will directly affect the site: the extension of the Charles River park system downstream on the Boston side which will reach the northwestern tip of the site, and the depression of the Central Artery northward which will reach the southeastern corner of the site at Causeway Street. The former is a terminus of the Emerald Necklace park system which is arguably the greatest of landscape/park system in America designed by F. L. Olmsted; the latter is a park/public building system made possible by utilizing the air right parcels over the proposed Central Artery tunnel which will replace the existing elevated structure.

Therefore, at the size of the landscape and the city, the site must perform as a link, between the Charles River landscape and the Central Artery landscape, establishing the continuity of landscape flowing from the perimeter of the city into the heart of the city.
Existing Conditions

This photograph shows a much smaller area than the last one. The site and Bulfinch Triangle are at the center of the picture. The image has been rotated slightly so that now the left side of the page is facing roughly northwest. We will define this direction as site / project north (hereafter referred to simply as "north").

This close-up aerial shows the existing conditions of the site. The site is bounded by: Charles River to the north, I-93 to the east, Causeway street (at the center of picture running east-west) with elevated Green Line to the south, and Nashua Street (curving street along the vast parking lot) to the west. The two major obstacles on the site are the railroad tracks which occupy the center of the site at grade, and the I-93 ramp running above the railroad tracks and across the site, effectively severing the site in northern and southern halves.

Three large buildings exist on Causeway Street (white masses): the 12-storey Analex Building (at the top) which houses services and administration for the Boston Garden, The Boston Garden sports arena / North Station (in the middle) which is home to the Boston Celtics and the Bruins franchises, and the 10-storey U. S. Government General Services Administration Building (GSA Building, at the bottom) completed in the mid-80s. Of these three buildings, the first two are due for demolition: the Analex Building, pursuant to plans for the depression of the Central Artery, and the Boston Garden, a structure built in 1928 which is due for replacement elsewhere on the site and is in serious need for larger seating capacity and air conditioning.

Canal Street (in center of Bulfinch Triangle) leads from the Government Center Garage (near the right edge of photo) to the Boston Garden. It boasts a tree-lined 25-foot sidewalk, and is dedicated to the thousands of pedestrians who walk down it daily from North Station to the downtown and financial district.

These three buildings form a severe wall at Causeway Street, making impossible any awareness of the river landscape beyond.
Project under Construction

The new Boston Garden is constructed between the existing one and the I-93 ramp. The two demolished buildings are replaced by two 40-storey office towers with ground level retail facing the 4 to 8 storey Bulfinch Triangle across Causeway Street. The third tower is added to the west of the new Garden to house a "first-class hotel" with 400 guest units. The air rights parcel above the railroad tracks will be used to construct a 7-storey parking structure. North Station is housed underneath the new Garden at grade.

This scheme is decidedly ignorant to both the depression of the Central Artery and the existence of the river. It makes no more of an urban gesture than to align its shopping gallery between the office towers with Canal Street. The area to the north of the I-93 ramp is treated as a kind of urban dump, concentrating all the unwanted elements (cars, trains and their emissions) in one place, with absolutely no human activity aside from dropping off a car. On the other hand, the southern half of the site along Causeway Street is overbuilt, overscaled and will surely be overcongested, especially without any kind of open space within the site for the several thousand occupants of the offices and the 20,000 spectators of the new Boston Garden.

This scheme represents greed, design expediency, and particularly, lack of vision. This is a very large project, and should be accompanied by a long-term vision. Why should the office towers which symbolize short-sighted private greed be standing more prominently than the Boston Garden which symbolizes collectivity and public pride? Why gather all ills of the site in one spot? Automotive emissions are becoming cleaner every year, and electric cars are not so far away. All trains entering New York City are electrified--can this not ever happen in Boston also? After all, one cannot escape pollution by concentrating it in one place, anyway.
The Project

The following series of drawings and models are chronologically arranged to document the process through which the final scheme has developed.
As P-vpC, 4
DIFFERENT MODELS FOR HIERARCHY

   CONTROL
   "MILITARY" OR "BUREAUCRACY"
   "COMMUNITY" OR "COMMUNIST"
   OR "ANARCHY"?

2. "It can't be
   EQUITABLE
   AT ALL POINTS
   STRUCTURE W/ NO HIERARCHY.
   IDEA OF "COMMUNIST"
   OTHER "ANARCHY"?

3. "It can't
   EVERYONE INFLUENCE
   SOCIETY.
IN CONTROL MODEL
ONE IS NO ONE
→ LACK OF RIGHT TO EXPRESS/INFLUENCE SOCIETY.

IN EQUITAISAN MODEL
ONE IS EVERYONE.

DIAMETRICALLY OPPOSED CONCEPT.

CONTROL
→ PHYSICAL

SOME KIND OF "DEMOCRACY"?

EQUITAISAN

SPECTRUM OF HIERARCHY.
Is there an architectural equivalent?

*What is the architectural response to different society?*

*What is the form of architecture in a democratic society?*

Each person/association knows its place in the society.

Ex.:

- Control form: **compute containment.**
- Containment is open to one collective.

"Territory" is space of influence.

TEAM, MOVEMENTS, IN SP.

- Need permission to exit → jail
- No association to outside.

First move:

- Exit + entry
- Courtyard (control in front)
- Courtyard (control in front)

Public

Private or many private

All connected to one/none

"Add up" to one/note

Small or not subdivided.
2 AND MORE
EXIT + ENTRY TO MORE THAN ONE TERR. HIERARCHY LEVEL.

2 MEANS OF ENTRANCE
GETS ONE TO DIFFERENT LEVELS IN HIERARCHY.

DOUBLE-DIRECTIONAL FUNCTION OF GROWTH

THIS IS A SELF-DEFINING/RECURSIVE "FUNCTION"

LIKE FACTORIAL ... 1, 2, 3, 5, 8 ... OR

GEOMETRIC SERIES → \( \lim_{n \to \infty} \)

VS.?

FRONT + BACK (CHOICES) → BACK BAY

STREET,
ROW HOUSES,
ALLEY,
EXTENSION

SINGLE-DIRECTIONAL FUNCTION

FROM

COMM. AVE.
COMM. AVENUE
PARK
PUDDING
MONDAY
WEDNESDAY
SUN
COURT

RECEPTION (S) WASH A.M.

SUN
A.M.

SUN
WEDNESDAY
MONDAY

PARK

WEDNESDAY
MONDAY

RECEPTION

COURT

PARK

MONDAY
WEDNESDAY
SUN
MODULES - STRUCTURAL:
- PRIMARY POST
- SECONDARY DOWN
- TIERED FLOOR
- ADD EXTRA TERRACE
- BANK STR. ACTION

TOUR, MODULE
- PRIV. 2 EXIT
- 2 PRIV
- PRIV = UNIT (1/4 UNIT)

TOP: 2 Exit
- 2 PRIV = UNIT CELLULAR

TENENT LEVEL
- HIERARCHY
- 9 X (2 PRIV)

ARCHITECTURE
Now, instead of 2 CP's, can we have 3 CP's, and have the same organization?

So max. of 2 CP & 1 Collective, but no internal hierarchy, public - ( ? ) - private.

Smallest unit... ~ 5 - 7k sqft, small enough not to need ordering.

Collective for 2 CP's, ~ my 1D2, collective for 1D2's internal access.

Multiplication/doubling of equal size & situation, just a behavior.

Building collective, and another layer of complexity...
As soon as one makes a connection, larger connection is implied.

Is not a terminator

Cross street / public for 2 blocks.

And so on... "Frattally".
A model for "continuity"/connection or "public" + connectivity.

Can use this to generate a site diagram.

Alberti says: "A building is a small city."

Read: At every size... association to the larger context (size).

Always dynamically referencing "continuity" relatively.

Guarantees access to higher levels of hierarchy + lower.

+ variety of situation.

1 to -
1 to -
1 to -

--- territorial

--- behavioral

--- structural
Alternating now backward at each site, upward. "Discontinuity" is within the system.

This is a "behavioral" "territorial" diagram. Nothing to do with geometry. Can make adjustment according to site shape and direction.
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