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ABSTRACT

REACTIVE AND INTERACTIVE ARCHITECTURAL FORM:
A DESIGN EXPLORATION
by
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Submitted to the Department of Architecture on 20 January 1989, in partial fulfillment of the requirements for the Degree of Master of Architecture

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The site is a dense urban row-house residential fabric. Mass. Ave. roars along one side heavily trafficked and fast moving. Major public buildings are interspersed along its edges. A lineal pedestrian parkway moves through the residential fabric, crosses the site and continues through Boston on the other side of Mass. Ave. The site is at a point of transition between singular public buildings and small repetitive residential buildings.

The thesis is the design a public building that attempts to connect, through its form, with the residential fabric, and in a similar manner as the pedestrian parkway is an extension of backyards and becomes a playground, a place for all to hang-out, offer a built environment that can be that too.

This thesis looks at public and private definition of space, the building of large and small dimensions in such a way that a variety of uses and definitions may co-exist within a formally legible and coherent structuring of form, generating interaction between the users and the form and the building of form that is contextually reactive and interactive, expressive of the difference of its use by the continuation and/or transformation of existing patterns.

Access and structure are the generators of definitions that realise public access, collective and more specific use space that are built in spatial continuity.

It is an 'open' building, optional, a collage of spaces, with layers of definition. It should offer a site for what you want to be doing, or not doing, and to change with the changing, always having something going on with which to participate.

Concerts, kite-flying, school, a palm-tree, motor-car mechanics, dancing, books, and light, canolis and coffee, stuff about computers walls on which to paint, palmreading................etc.
ACKNOWLEDGEMENTS

It is always hot
Thinking of home,
And it is the land that I am seeing
which vibrates in the sun
to a music with a beat
of heart
muscles
feet
fists.
Growing greater as the heat scorches
Louder.

Dried earth
is red,
Crops bowed
bellies protrude,
Flies on faces staring
drum roll.

Silence
of fear,
is beneath this place
of anger, it approves.

No giving of hands
No showing of way,
No making of a spirit
for any new African day.

My Mother,
blinds herself to unease
to survive,
Stretches her hand
sharing a smile in her eyes
A faith,
in a wild hope.

My Father,
is building
on choice land.

Place give strength
To all people,
Take no side,
Proud in beauty.
We, take it.

I am guilty
Same sky
same blankness,
I speak to a sky
that says nothing.
Only endless, empty, blue.
I am cold.

Waiting for an apocalypse
Nightmare demanded,
Threatening
bullets bullets
ja berra, ja bussa.

Nkusi Sikelele i Afrika,
it is the sky up above that we love
Holding us together.

This beat is a good one to get up and dance.
TO MY PARENTS AND ALL OF BAJKA.
for love, support and constant faith
a strong ground
and home being there.

Mary

Gideon, who helps my head travel -loosen-up
"I think it means I have to travel more,
then in those other places you really can
crank your head.
twist it around and let the thing drift as
it will go because you really are living
in another time and maybe in a nicer
way."

Hey Kid

MAHMOOD my love, my friend, buddy throughout
this thing.

Yes, space is 3-dimensional
and it is all a matter of size, scale/dimension

Maria, Sarah and Lauren, candles, flowers,
girl talk
Ahmereen. Ashishjanifuni. and Allan
Tina in Japan

My pal Ken,
Jamie and Sarena always
Jose,
and Greg go sailing

Heidi and Bernard
and Stephanie

Thank-you all for the times we have had here,
of working and playing, and being so many
things

May these two worlds meet often
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This thesis consists of four parts.

1. The first of the four parts is an introduction of the attitudes towards design that I as a designer bring to the project.

2. The second is the conceptual and intuitive responses to building on a particular site, the first reactions.

3. And the third is the observation of relevant built references which give formal characteristics which inform the design process.

4. The final part is the design proposal for a public building.

"The quality of life is just like that: it cannot be made, but only generated.

When a thing is made, it has a will of the maker in it. But when it is generated, it is generated freely, by the operation of egoless rules, acting on their own reality of the situation, and giving birth of their own accord...

The brush stroke becomes beautiful, when it is visible only as the end product of a process—when the force of the process takes over the cramped will of the maker. The maker lets go of his will, and lets the process take over.

And just so, anything that lives can only be achieved as the end product of a process, whose force takes over and replaces the willful act of creation."

CHRISTOPHER ALEXANDER

Although each of these parts may be read independently from each other, the act of cross-referencing information throughout was vital to the process towards the design and understanding of built form undertaken in this thesis.
INTRODUCTION

Language describes the multi-faceted world in which we live, that is our life and which is itself alive.

Our architecture should continue the descriptive nature of our world

- multi-coloured
- screened
- layered
- textured
- transparent
- solid
- angular
- delicate
- gentle
- playful and friendly
- weighted
- light
- alight
- distant
- evading
- intrusive
- respectful
- generous
- peaceful

as a medium for expanding vitality

"It is not that we should change in order to live within architecture but architecture has to react to our movements feelings moods emotions so that we want to live within it"  

Coop Himmelblau

In an architecture that is content not shell

A walk through a place should be a continuous unfolding of scenes. And each time we walk that place, the story should change though it remains familiar, for it is another day, the next season, and a different thing we are thinking. Our perceptions alter according to the external and internal stimuli to which we are subject.

The architecture should respect and not take away from our collecting of experiences that make each day inviting, different, and life fuller.
If the form is designed for an optimum diversity of uses it will itself bring a great many more uses to light without in any way inhibiting the original, primary function it was intended to serve.

HERTZBERGER

The challenge of architecture lies in the ability to correlate physical and territorial definition with the individual and collective goals, objectives needs and expectations of those we are supposed to serve. This balance, this reciprocity between form and our associations, is the most crucial goal of architecture. It will be this balance which will enable us, as architects, to set options rather than impose solutions.

HERTZBERGER

"We are not merely observers, detached from the play called life, but are ourselves part of it. on the stage with other participants. The stage is constantly being transformed by people and forces, social and physical, over many generations. While there might be certain conditions which are stable for some time, in detail it is ever changing. There is no end, only a continuous and layered succession of phases."

Nothing then is ever experienced by itself, but always in relation to its surroundings, the forces, internal and external, physiological and psychological, social and cultural, man-made and natural, past and present, which shape such experience.

The use of the building should not be understood as something limited to 'function', but rather, as a physical and mental interaction between man and form. An inclusive as opposed to exclusive understanding.

Architecture designed for a diversity of use, will facilitate, and be a manifestation of, freer associations.

To begin, the ideas I am concerned with stem from this 'ideal', of an environment that invites a participation from the user in the determination of the different roles it may play: (play,) in our lives; a role that is less imposing and less authoritative than so much of what is built for us.

On the pretext of building ordered environments, too often the diversity found in our ideas, in our cultures, in nature, and in ourselves is lost. A preconceived image of the form of the building on the landscape according to external and unrelated systems of composition is imposed on the world.

Diversity is the stuff that life is made of, it is seen in the organization of the natural world, the faces of people, in the ideas of civilization and within ourselves. It is something usually thought of as good.
Uniformity, is what has been imposed upon us by the modern world, in the places we work, the work we do and the consumer oriented culture we are a part of.

Self-centered, dominating the environment, assuming a control that is carried out in axes and symmetries, the building itself dominated by 'balance', with parts subservient to the whole. A vision of grand composition. The landscape is made to follow the same order. In this way, the ordering system which determines the built form is projected out to take possession of the landscaped environment beyond. Abstract laws derived from intellectual laws...

The objectivity stance is one that comes from a mind too used to the convenience of a bulldozer. An indifferent attitude towards the land. The objects are arranged in rows (parked) There is no context, no individuality, and certainly no diversity, no continuity of existing form and structure of either the existing fabric or the landscape. Disharmonious elements are set up alongside each other.

The kind of unity which we construct on the basis of geometrical figures is for so many things merely a unity of form and not a unity with life....

Unity and uniformity are distinct and separate. Unity is the ordering of life's multiplicity. Uniformity is the order that is not part of life but that is imposed upon it. A uniform arrangement of objects may have an orderly pattern but contains little information regarding other possible variations in the relationships between the pieces. The same objects organized in a more diverse way contain many different relationships, therefore more information. As in biological growth, the adding of complexities implies more information.
It is then a unity from a diversity not a uniformity, which would seem to be the goal for gathering the world."

(Thomas Chastain, M. Arch thesis)

In the writings of Pugin and Violet Le Duc and the works of Morris, Webb and Shaw we first see an occupation with the placing of man in terms with his environment (and nature) through architecture. The use of 'real' materials, expressed as just that, the break from any external controlling geometry or imposed order, and the building from inside out are all evidenced in the 'Red House' by Morris and Webb.

Camillo Sitte took this concern to the realm of town-planning. His stress on the de-objectivising of the monument in urban space showed a desire for the creation of a friendlier built environment by the breaking down of absolutes. This thinking was continued by Frank Lloyd Wright and Adolf Loos in their concern with the opening up of space. This 'destruction of the box' and the 'Raumplan' meant the end of an architecture which saw buildings as being singular, isolated or contained.

Modern art and architecture, products of a remarkable period of advance and development, saw the shift from the 'object' to the 'perception of the object'—i.e. the role of man became central to composition in art and architecture.

In the euphoria and optimism following the age of the masters, however, modern architecture began to engage in a sort of abstract minimalism. New materials and newer philosophies merely became opportunities for the exploration of space and form, and the concept of 'place' and 'being' was lost in the excesses of concrete and steel. From the folds of Modernism there ensued a flood of building which ranged from being fit for nothing to being for everything.
As a reaction to this architecture which had forgotten its very roots, and out of the ensuing uncertainty, the pseudo romantic historicism of Post Modernism was born.

Complete form, singular form, novel form, that result from the use of form for forms sake, trigger a set of associations that have little relation to previous and similar situations. Buildings conceived in these ways seldom invite our contributions to them. The concept of total design/completeness does not require personal contribution: the user has no role but that of passing through.

Already then, by easy definition of what is unsatisfactory in the built world, we can begin to introduce their polar opposites and think of these as elements necessary in the making of a more easily interactive environment: discontinuity / continuity singular / additive complete / incomplete

This is not intended to be a negation of singular or processional form, these forms can find appropriate place in 'special' building types, i.e. churches, and monuments.

It is when this becomes a generalized attitude towards the building of our environments that we are deprived of what Christopher Alexander calls, "the patterns", that are life, which result from the interrelationships and variations of "an organic order", an order that comes from a harmony of parts, a complexity and continuity".

In nature, form is the result of the organisation of many distinct parts in space in such a way that life can unfold, fulfilling all its effects both in terms of the single part and the integrated whole. There are specific internal forces that generate the forms.
DEFINITIONS

REACTIVE: "to respond to stimulus, influence, events; to exercise a reciprocal effect on each other."
- used in this thesis as a response to the context,
- a taking of information from what's given as a basis for behavior

INTERACTIVE: "to act mutually on each other; in a participatory manner."
- in this thesis, specifically the user and the built environment,
- and the proposed built environment and the existing context

CONTEXT: "that which comes immediately before or after a passage or word quoted, and therefore helps to explain it."
- The immediate environment, the built, unbuilt, social, cultural, etc. worlds

CONTEXTURE: "the weaving of parts into one body"

CONTINUE: "to prolong or extend in duration; to go with; to persist in; to resume; to remain in a state or place"

CONTINUITY: "the state of being continuous; uninterrupted succession; close union; constant"

AGGREGATE: "to collect into a total; a sum or assemblage of particulars; the sum total; collected together; a combined whole"

ASSOCIATE: "join with, to class together, to combine"
- to make connections between events, experiences, environments, etc.
We find it a more worthwhile approach to determine form at the latest possible stage. In this way we approach the end product step by step, become acquainted with as many aspects and elements of the project as possible, work out answers piece by piece, and on completion we are able to recognise the many aspects and separate parts of the brief that have combined to form "a single entity."

Determining form? Finding form?

We mean:

Looking for form or— to go even farther— seeking out our task.

The column happens to stand next to the stairway, a window or a wall etc., or a tree grows close to a hill, a stretch of water or a path etc. Each part is self-sufficient, needs its lebensraum— assumes its function within the whole and has equal status. A varied, complex and functional system— outward appearance is not a principle in determining factor.

GUNTER BEHNISCH
This exploration then is an attempt to broaden my understanding of architectural form that is responsive to a "process" of design:
the process beginning with (and 'formally' continuous with) the context within which the form is being built,
the reason it is built,
and the people who shall live in, or use it.
This process can be the coherent and legible 'order' of form for that building.

Buildings are thick with many layers of activities, exchanges and relationships. Due to their physical and spatial definitions, materials, structure, etc. the richness of life is either allowed or disallowed. These layers of variables can be explored to inform design decisions from which the 'forms may unfold'. The building then is a process of discovery, allowed to develop in parts, in response to these particular issues: their interrelation and their final assemblage becoming a coherent whole.

It is a sympathetic and responsive approach.

In city form, territories and local regions, if successfully built for a rich environment, are defined and interwoven in such a way that they derive strength from one another. "The city becomes a map of differences implicitly understood, appreciated, and used by those who inhabit the urban landscape" in Kevin Lynch's book, "Image of the City", he speaks of the importance of a "legibility and coherence" within the planning of our environments; this clarity is necessary also in the design of the built landscape at the size of the building.

A beginning for this life patterned organisation of form can be discovered by seeking out and responding, in appropriate scale and relevant dimension, to the special conditions of a chosen site. The environment is then experienced as part of a continuous context with which it interacts.

This process results more in a 'subject' then an 'object' - in an organic architecture.

This is not a search for one overall form reflecting a building that resolves all complexities, differences, and interrelations of activities. Rather, it is a search for a more inclusive form that is the final assemblage and appropriate correlation of physical and spatial definition, structure, access, site/landscape, materials, light, and inhabitation.

The intent is to explore the nature of these complexities which inform the appropriate design decision towards the making of an aggregate of forms. These forms are then responsive to the difference of the singular...
parts and are assembled into an understandable organisation reflective of the meaning of what the building is intended and how it may be used.

If we prefer to search for shapes rather than propose them, to discover forms rather than to construct them, we are in harmony with nature and act with her rather than against her...

What of architectural beauty I now see. I know has gradually grown from within outward, out of necessities and character of the indweller, who is the only builder. Henry David Thoreau
Life in the Woods

The relationship that the building has to the landscape, should be continuous if it is to be participatory. This continuity can occur in a number of the form defining elements that constitute the building: the size of the building parts and pieces, (as expressed in its structure, containments etc.), the access, and the direction. With this attitude a building begins to recognise its relationship to its environment, the street and to those passing.

At the scale of the building parts, the same consistent attitude should occur in the organisation of the pieces, in recognition of their relationship to each other, to those inhabiting its spaces, and to the building, as a context.

"To perceive a visual image implies the beholder's participation in a process of organization. The experience of an image is thus a creative act of integration. Its essential characteristic is that by plastic power an experience is formed into an organic whole. Here is a basic discipline of forming, that is, thinking in terms of structure, a discipline of utmost importance in the chaos of the formless world."
KEPES

"Legibility of the cityscape means the ease with which its parts can be recognized and organized into a coherent pattern. A legible city would be one whose districts or landmarks are easily identifiable and are easily grouped into an overall pattern."
KEVIN LYNCH
The image of the city.
And so:
beginning with a site and the pieces that
make up buildings, like stairways, different
room sizes, structural elements, etc. this thesis
is about putting these parts together.

And in so doing, make definitions in space
that are a direct result of this process, as
opposed to a predetermined formal
arrangement.

Interwoven components and aggregate form
develop at all sizes of the building, the city
and the landscape.

Association is the understanding of the forces
affecting our experience. The meaning or
understanding of the forces involved is
manifested in the way we interpret such
stimuli.
When dealing with form and physical
definition, as a stimuli, such interpretation is
referred to as use.

In order to allow for a number of different
but supportive interpretations (associations),
territory must accommodate a range of uses.
This does not mean 'flexibility', as dependent
on neutrality of form and lack of definition (in
which everything is supposed to be possible,
but nothing is)- but rather on directed
definition where the projected forms serve as
clues, references, or physical frameworks for
the interpretations or uses to occur.

Part of the intention of this thesis is to build
differently from the making of extreme
disconnection of the worlds in which we are a
part, and to build a hierarchy of transitional
territories in an understandable systematic
order
that make the change of environments less
singular,
more expressive of that transition,
and more optional- providing for a greater continuity.

A beginning of this can be reached by
reaction towards what exists.
A greater range of sizes between the private
and the public,
a building of spatial continuity,
overlapping territorial definitions,
space that is built as a belonging to both
worlds, with less confrontational penetrations
from zone to zone
the 'built inbetween'

The rhythm of the street facade,
the access system continuity, movement
through the site, association with neighbors,
connection to the landscape,
and 'places',
in continuity.
So that the buildings can be part of,
but separate,
have new form in a transformation of the
existing behaviors,
intensifying the reading of the site and yet
making a place within it.
In our journeys through changing environments we are, at any given moment able only to perceive a part of the totality. Our continued sense of orientation and our relationship with the environment is generated in relation to a continuity of direction and movement. Discontinuity helps distinguish special uses and regions.

Since a thorough understanding of the whole can only be extracted from an accumulated experience, it is necessary in the ordering of the built environment to develop common physical denominators which tie the participants into the diverse field and thereby, establish and strengthen an understandable continuity through the whole.

Coherent correspondence between different parts of the built environment—an associative continuity—may be established through a range of formal and dimensional similarities.

Definitions of all sizes co-exist in the natural landscape in a non-hierarchical manner. The larger sizes are reference definitions to the smaller ones and do not control them totally: in many instances, larger definitions are generated by the collective aggregation of much smaller elements, thus each level and size of definition is as important as the rest, regardless of size.

In looking to the natural landscape as a reference for an understanding of an order that is organic, open and continuous, with a range of habitable definitions in its dimensions and a unity and diversity that John Habraken identifies in talking of the "flowers and the leaves that speak of the same tree", patterns of growth may inform the generation of built form in terms of the single parts and the integrated whole.

"How do things grow? They always come from something, they are not created. They are continuous with their source, they grow through movement."
they grow in certain fluid, non-mechanical but generative ways.

Form making is never finished, but continued to either expand ever outwardly or to divide and change internally.

In this way, buildings may grow from the existing, through movement, to the articulation of such movement, through the partial definition of parts reinforcing its direction, and from there continued growth into the three-dimensional world of the built environment.

Built form is then generated from a natural order existing in the landscape through movement (access) from the context (site).
This idea suggests a greater relatedness and harmony between people, physical objects, society, institutions, and the unbuilt world."
(Andreas Mignucci. M.Arch thesis)

It is possible to establish and explore the intrinsic nature of things and the rules for their behavior so that the new generated environment will be continuous with such natural order.

The logical conclusion of additive growth is that the growth of the singular affects the collective form. All expressions of form are relational in that an action/form results in other action and form responses.

These rules (constants) rather than inflexible principles are vocabularies of building, which may be employed to generate variable and responsive environments as positive extensions from and appropriate to the context.

External forces are particular to the context and setting in which the form acts. They might be natural (e.g. climate, topography, orientation) or man-made (history, culture, economy, socio-political)
The external and internal forces (as manifested in physical form) are constantly informing and redefining one another.

Perhaps two of the most crucial external forces to form are light and the horizontal generation.

Light is what allows visual perception, light as a force reinforces definitions of territory. Light as screen, light as surface, light as a framework, narrative light.

The landscape is the first basic physical component of the built environment. The distinctive quality of the landscape is extension. Topography, surface relief and the landscape's horizontal dominance are physical expressions of this continuity. The horizontal is the terracing of the landscape topography for movement and use. The vertical dimension is gained in order to make further reference to the horizontal.

Continuity in general reinforces the direction of movement. In this way the second basic
component of the built environment, access, is primarily continuous.

Buildings, in a relatively dense environment, having a mutually defining relation to access, are also continuous. (Not individually, for their nature is that of containment) but in their aggregation.

The three major physical environment components,
1. living territory
2. access
3. landscape
offer three different continuities. (how they are different is dependent on their range in reciprocity, size, completion etc)
1. Horizontal continuity

- the most basic continuity in terms of our association with this world, the horizon, earth
- surface extension
- the essence of topography
- generates use surface
- terracing—man's making habitable and controlling the landscape
- vertical displacement, to continue association with the ground
- movement, cultivation, transportation
- to reinforce the horizontal is to reinforce use

2. Landscape continuity

- means that we live with the landscape and add to the characteristics already there
- the essence of a natural place

3. Contextual continuity

- an inclusive gesture to be associative with the existing world—the natural or built landscape surrounding the site
- dimensional reference
- movement, access
- behavioral patterns

4. Access continuity

- reinforces the direction of movement
- buildings in a relatively packed environment having a mutually defining relationship to access

5. Building continuity

- the continuous horizontal use surface
- buildings are continuous in their collection, aggregation
- reinforce the continuous topography, the access

6. Use continuity

- extension of activity to adjacent area, territorial sharing
- breaking of definition—open form—range of sizes within defined use size
- intermediate zone
- place of exchange
- range of experiential quality
- only partial definition (enclosure) of use area
7. Vertical continuity

- in section
- spatial
- continuity of vision, of use, of light

8. Light continuity

- transparency

9. Visual continuity

- extension of vision beyond immediate territory
- screen, filter, the layering of perception range of distances
"Order has no function, outside of evil, other than to make what is essentially chaotic work," So wrote Aldo van Eyck...responding to an intricate program it teeters splendidly on the edge between calming order and stimulating complexity...the separate parts are woven back together, allowing interaction—chaos—to enliven order...the whirling weaving process takes over, clarified yet intensified by the layers of transparent material, the outside world is a stimulant to the inside life....the entry stairs are in the small new addition, but lead through an opened corner of the old building and the two sections of the new building are woven together by the active form of the octagonal hall/stairway, a space overlooking the small inner corner courtyard. The octagonal stair structure, with its formal and functional movement and its overlapping surfaces, gives new meaning to Van Eyck's expression "the transparency of time"......Metal-framed windows in the main facade of the new building reflect the neighboring gable, while glass block between tiled mirrored squares reverse the old basement window motif....

As new interiors weave into the old building, functional, industrial, and artisan idioms overlap. Painted metal rainbows arch concrete-block doorways; circles are cut into metal panels; an arched shouldered wooden door seems medieval; coloured tile strips are pressed into concrete walls. The instinct for order is always there: curves generally remain within the circles range; surfaces generally remain planar and orthogonal or regularly prismatic; colours stay close to primary/secondary purity; but their free interaction is encouraged...

In the home for Single-Parent Families...allowing individuals to be drawn into a collective, but not too tightly. From spatial organization to detail, the actualized building does not delete the process of its conception. Chaos is subdued, but barely.
so continuity seems to be:

1. CONTINUITY BY MEANS OF PROGRESSION
   a range of hierarchical territories between, public and private, use zones, etc. in an understandable and consistent order therefore 'building' continuity
   
   a) LAYERING
   a zone of transition -grey area
   a territorial building of screens -linear demarcation
   a new place
   
   b) OVERLAPPING (collage)
   an intensification of edge zone
   a third place
   
2. CONTINUITY BY MEANS OF EXTENSION
   INTO (penetration)
   
   a) INTERLOCKING (reciprocity)
   elements alternate
   claim the others world
   light/ dark
   open /closed
   inside/ outside
   sky/ building
   
   - or the transition is celebrated by a special condition
   a discontinuous element within the continuity
   
   Family of identifiable forms taken through a reductive or additive transformation may generate an associative continuity
   Silhouettes of thematic forms recalled in smaller elemental definitions e.g. Compositions involving collective circular spaces are often completed with circular niches, stairs, columns, and ground form
This refers to the bringing together, the breaking of boundaries, the articulation of different, and opposite definitions, entities that present themselves as absolutes, open-closed, small-big, part-whole, public-private, etc., as part of an effort towards providing for stronger spatial continuities.

It can be understood as a concept of give and take—reciprocity, where the place 'inbetween'—a place where attributes from both the adjacent territories (e.g. inside-outside) contribute to make a self-contained, and at the same time transient space which is both 'somewhere', and an 'inbetween'.

CLASSICAL COMIT. PAUL KLEE
This way of thinking allows for an easy and informal relationship between extremities.

Integral to the concept of 'the built inbetween' is the belief for providing a place for man in the built world; of creating an environment with which he can participate interactively and which presents him with a variety of opportunities—

an environment based on choice and option, which neither forces or severely excludes nor remains neutral to any function.

Integral to this concept is the idea of an associative built environment.

Reciprocity implies a mutuality in definition between space, form, and movement, between place and physical definition, and between participating elements in relation to each other.
Herman Hertzberger, Montessori School

This contemporary building shows very clearly the concept of linkage by mediation. Each of the classrooms has at its entrance a zone of exchange between the territory of the hallway and the classroom. The form of this space is reciprocal and interlocks both public to the more private areas of the school. At each place of transition, there is a built space that defines the transition and allows one to stop, resulting in an optional association with the neighboring territories. Within the same spatial continuity is a range of sizes, achieved by a partial completion and additive territorial building. This allows for part of the definitions to be built by other sizes. This is reciprocity between large and small, individual and collective.

It involves an interlocking and interpenetration between each of these continuities and definitions, in a territorial zones of exchange.

The edges adjusting to one another, or a built zone (intermediate zone) exists that accommodates the shift from one definition to another.

A mediating element may be introduced as an independent linking element that is placed on the common edge, a part of both the adjacent territories.

The range of sizes at which this exchange can occur in the environment are:
- the material size
- door-step
- building-landscape
- landscape exchanges
- the built world to the sky

One definition shapes the other and is in turn shaped by the other.
THE SITE

The site is a dense urban row-house residential fabric.
at the place where Massachusetts Avenue intersects with the new Orange line and the newly developed South-West Corridor Parkway.

The site is a point of transition between neighborhoods, as one enters into Roxbury from Boston.
Moving south, along Massachusetts Avenue, one passes over the Mass Pike. On the left is Boston downtown seen through the buildings of the Christian Science Centre, the large scaled public open spaces, and the Boston Horticultural Centre. Opposite this building is the Boston Symphony Hall and next. On either side of the busy road are the two massive high-rise blocks of the residential Symphony Towers. These two blocks seem to form a gateway, that is a separation of this Boston, to the brown-stone residential blocks of 4/5 stories that continue along Mass Ave into what is the beginning of Roxbury, a very different and separated world from the Boston we have left behind.

This is one of the many changes in face that occur along the stretch of Massachusetts Avenue.

The separation and differences, between social, functional, scalar and other physical features, is reinforced by approximately half a block of unused vacant territory.

Immediately following the looming "gateway", Mass. Ave takes on one of its few rises and decents which corresponds with the open lots.

This open space is the site I have selected for this project.

The site begins on the corner, and continues for half the length of the block.

At the peak of the rise of Mass. Ave, and in the middle of the empty plots, several things happen: the newly developed South-West Corridor Parkway runs into and through the width of the site, perpendicular to Mass. Ave, acting as a major pedestrian route; at the place where the corridor connects to Mass. Ave, is a new Orange line "T" station; and the site drops perhaps two stories below the road level as it continues south along Mass. Ave.

The South-West Corridor opens up the site.
BOSTON: REHOBOTH TOWER, BOSTON PLAZA SEEN FROM THE SOUTH WEST LOBBIER PARK

DRIVING UP MASS. AVE. FROM EYESERY
along almost its entire length
to a view of Copley Plaza and the John
Hancock building.
–new Boston.
However the corridor itself,
full of small-scaled recreational facilities,
has an appearance of neighborhood
involvement,
a shared substitute back-yard territory for
the old brick brownstones that surround and
claim this public territory as a private space.

The major physical features of the site then,
are those of the radical change in scales
that occur along the edges of the two crossing
access routes.
the large, mostly public buildings.
fast, vehicular Mass. Ave.
and the pedestrianized Parkway that
connects into much smaller scaled landscaped
and residential blocks.

The walls are perpendicular to the streets.
brick.
one next to the other, each holding its own
floors. They hold the buildings together.
The facades are non-structural ‘curtain-
walls’.
The units are singular, cellular and isolated.

Another characteristic of the site
are the facades lining the streets in straight
lines.
They press themselves forward, possessive of
the public space they make together.
The flat facades display colour, texture, and
sharp profiles against the sky.
The cornice acts as a horizontal reference in
the vertical space;
above this line the rigidity of the block
breaks down and ad-hoc room-size extensions
inhabit the roof surface.
The rear side of the block has similar ad-
hoc extensions
in the fire-escapes and porches which
make reference to the individual apartments
and give an expression of the inhabitants
whose use of these territories is most public.
These zones are edge extensions,
connections between the public life of the
street and city-scape
and the internalized world of the row-house.
The place for exchange, both formally in the
built landscape of zoning, and socially,
between neighbors.
The range of dimensions in the residential neighborhood is limited:
- the front steps and entry,
- room-size definitions have little size connection to the block size,
- and the larger size of the 'landscape'.
This is a characteristic that builds the privacy of the unit.
Penetration into each apartment is a singular event.
There is no shared space, collective or communal territory.
The perpendicular, frontal entry from street results in an almost immediate disassociation with that world.
Inside to outside is instant.
The door and the wrapping continuous wall act as a barrier.
IT WOULD BE IDEAL TO BUILD ARCHITECTURE WITHOUT OBJECTIVES THEN RELEASE IT FOR FREE USE. Coop Himmelblau

This is essentially the program and attitude of this study.

This is a public building.

The building program is seen as an opportunity to 'bridge the gap', between the distinct characters of the adjoining neighborhoods, between their inhabitants for whom the building is proposed, and between individuals.

The program is also an extension of the context. The building is intended to continue the use interaction that occurs in the pedestrian and recreational parkway: it too has a 'back-yard' type of facility where one might fix up a car, do some carpentry, it continues and connects the Horticultural Centre and the park with a Green House: and the theaters and schools around are given more free and unconventional/informal space in this building. A day-care facility library and reading-room in the sun somewhere to grab a cup of coffee on the way to the subway and a place to sit down and spend time over a newspaper and eat good food.

Both site and 'program' complement the attitude towards the built environment with which this thesis is concerned.
FIRST REACTIONS
SITE MODEL
SHOWING PARTY WALL STRUCTURE
AND FIRST CONCEPTUAL MODEL
double skin on the
street edge: translucent unglazed slit

the light tower / constant and hard
build frame up into sky and-cold light in the building
continues to rule horizontally
Conceptual model showing the parkway as a built element crossing Massachusetts Avenue.
1. Greenhouses
2. Casual selling, buying
3. Some type of assembly big (the most public, a part of the site movement)
4. Connection through the urban block, continue the light...
5. The end must be strong, a tower of light, opposite to the tower of solid
6. Ramp begins to move up to already anticipate the block that is Most Are
7. Access point of building and park and street
8. The Park moves into building takes on 'controlled quality,' access becomes like the organic park was, geometric
9. Building begins to get loose, move down into the park, same dimension, open... the more public; entrance closed, barn etc.

FIRST LEVEL UP
10. Build park on roof surface. Obstacles (hard surfaces, skate bowls, etc.) will be massive.

11. The light that is park.
    Continues into space below.

12. Elevated connection over main area to park—consider.

13. Organic voiding:
    Cloth—something that moves or appears to have its own life.
RHYTHM OF THE STRUCTURE IN THE FACADE
MODEL: RHYTHM OF STRUCTURE IN THE FACADE
1. Church at the Hague
Odo van Tijck

The Bays Defined by Structure
Access against the direction of the bay

Overlapping of Spatial Definitions
1. entrance: inside; outside
2. cross bays of access
3. access: adjacent territory
4. bay: bay

Light Reinforcing Territories
1. continuous; evenly dispersed light
Source is higher (location)
= Access / Movement
2. shared light source; intensity between adjacent bays = continuity in direction
(+ : associative with) Public access

Contrast of Light Intensity
= Public / Private Adjacency
2. Lowen Beach House
Schindler
3.
Sarabhai House, Ahmedabad, India
Le Corbusier 1955
4.
Kimbell Art Museum
Louis Kahn
6.
The Menil Art Museum
Piano Fitzgerald
1. Sonsbeek Pavilion, Amsterdam
   and Van Eyck

2. STOP: GO
   access and stopping
   place have
   no exchange
   speed

3. extreme privacy
   C
   C

Transformation: invention
more exchange between
access + 'public' space

4. displace access
5. alternate

the 'hops'

8. Herman Hertzberger school building

Direction of field opposes
to movement

Access 'built' by
the more detailed
design

Access has no size dimension

2.3: opportunity for optimal distribution

3. Range on site - partial completion allows
   for space definition to
   come from the other site
9. Elephant Enclosure for Frankfurt 
Behnisch and Partners
THE PROPOSED BUILDING
The initial form decisions in this design process have been generated by the form of the access; access being the primary means of generating a public movement into and through, and interaction with, the built form.

The site is a pathway.
The pedestrian route crossing the site is a highly used connection between transportation systems.
The site is a part of an enjoyed recreational linear parkway system.
Commuters, bikers, neighborhood residents, strollers, kids hanging out, are given the opportunity to participate in a built intensification of these experience, by either moving through the building at the ground level or riding the flying ramp that takes one through the building with optional interaction with the building facilities and connection to the transport system of the T.

The landscaped park access is 'built' on the ground level and the landscape access transforms and becomes more like 'building' like as one moves up and through, over and down. Always there is the option of moving off the access.

Access and the associative collective space are discussed simultaneously because of the intention that they be formally associative, the intention that they be mutually defined.

The distinction between access and circulation is important.
Circulation implies a system which operates internally, to a building, or to other closed built systems.
"to move around and return to the same point" (Webster's dictionary)
By definition, access is more open-ended; it allows for the interconnection of
independent systems and introduces itself a level of organisation to those systems.

As a primary element of formal organisation, there exists a level of predictability and repetition, if for no other reason then that of orientation.
The access decisions reinforce the existing patterns of movement in the context.
Repetitive elements and forms are intended to aggregate and 'build' the system of access throughout.
The form of the access is always moving with the light and/or towards the light.
The form of the access is always associative with the collective and moves towards a larger and more public collective space.
The access is built continuously with the street, physically, visually or associatively, and moves repetitively from the street edge into the body of the building and back towards the street edge.

Below: first level up plan (process) Access movement from the front to the back of building, with associated collective territory
the access and the stable pieces that is the linear collective housing

Detail of final plan, associated territories

Model: Access moving up through the greenhouse and into the building, with the direction of the building and across Main Ave.

Model: Access on the street
The diagonal path of the access, although generated by the existing movement patterns across the site, allows for an intermediate direction between the perpendicular structural walls and the building direction. A slack space results between the two geometries of the structure and the stable contained forms that build the major direction, and the access; this slack is built as a continuous collective space.

The collective is thus built geometrically associative to both the access and the stable contained spaces (the public and less public).

The form of a collective organisation is a multiplicity of relationships, rich in information and understandable. It is a coming together of elements in an interactive manner, creating something shared by the individuals and the whole.
Large definitions and continuities are crucial. They prevent the overall aggregation from becoming a maze and in order to arrive at any sort of interaction with the landscape, built or natural, similar larger sized continuities are essential.

If the larger continuities are recognisable, then they may participate in an additive manner with similarly sized definitions in the landscape.

- Unit size-
- Intermediate block size-
- Block size-
- Neighborhood.
With the intention of this building participating in as public and as open a manner as the street and pedestrian path, particularly at the ground level and vertically displaced major access levels. Studies of the relationship between the access, collective, and more stable particular 'use' areas resulted in an understanding of different levels of 'publicness' that result from the differences of the form and relationship of these elements.

The most private articulation is observed when the access moves as a singular path, from which one must move perpendicularly 'to get off', and cross over into the next layer of space. This is the relationship that exists between the street and the entrances to the existing individual row-houses.

Penetration is against the public direction, disassociative, and a private definition results. No intermediate or collective territory for any exchange between these definitions exists.

The introduction of a collective gathering place is the beginning of an obvious articulation of more continuous and public building of space.

The collective relationship to the access as a node-link-node-link, although more public, results in discontinuity, a behavior of form that builds privacy.
The most public articulation occurs when the collective moves with, and has a mutually defining relationship with the access, of both their form and direction.

An intermediate and optional 'moving over off the access' into 'pause' zones results.

The access and collective area are formally associative.

Variation in plan and section of their form and dimensions, build the differences between stopping, waiting, pausing, and movement.

A progression of the completeness of containment, from the access to the different collective articulations, to the more private and contained stable forms, is understood to give information regarding their different levels of use:

"the form is the use"

The relationship between these zones is intended to be consistent throughout the building as a visible language that speaks of use, and the interaction between the user and the form.

Variety is inherent to the changing of the particular siting conditions of the pieces.

A range of collective definitions have been built; the most public being the 'building collective,' which are gathering and reception
Model: The major collective territories, on the street

Model: Interior, of plan on previous page.
areas which serve the major function parts of the building: defined as large, but open rooms, that are visually continuous in plan and section with, as well as build, the public core of access through the building. They are in the light.

the next layer of collective is that which is associative with the access and is lineal in form:

this collective is primarily for the moving off from the access, and as an extension of the class-room spaces, from this collective, built perpendicularly, and therefore more privately, are smaller room-like contained collective areas.

Their forms are associative with the collective from which they grow, have the same behaviors, but are different places to be. Of the range in collective definitions, their form comes closest to the more private definition of the adjacent class-rooms.
The new site should have a structure akin to what the sense of the neighbourhood is about. Walls perpendicular to the street at distances of 20-24 feet. This structure has to be established first. A continuous thing that covers the whole site – a structure that is the essence of the urban tissue.

The decision to continue this field of walls through the site, comes from the investigation of this thesis, of continuity.

The walls of the new structure act as a memory to the row-houses now gone. They introduce an associative residential dimension into a public scaled building, reinforcing what this building may be to the neighborhood.
However, this intention is followed immediately with an investigation of the difference in behavior of these walls as potential spatial definitions.

The structural element as a reinforcement of the fabric, but also as an articulation of different use the difference of a private and public definition the differences, in relationship to the size of the building and to the building direction.

The field of parallel structural walls as they exist in the context are singular, meaning they build and reinforce only one level of definition. This definition is one that separates adjacent units into private containments. The units have no overlap, no exchange of territory and relate to one another only by their common repetitive form and by their common relationship to the public alleys and street edges. The row-house wall structure runs with the direction of the built piece. The private access moves with the direction of the wall. Together the units build a block size and define a public access on the street edge.
The dimensions in the wall may articulate levels of public and private inhabitation. Use, in the same way as the access, may penetrate the wall. The wall may define some level containment.

The wall as a public definition is understood to transform itself to acknowledge a territory between the street and the building. This territory may be seen as a connection of the most public and less public zones. The wall may move in its own direction. The wall ends may be articulated. In these ways the edge is activated and an intermediate zone of exchange can be built.

The access runs against the field of walls. Place for access penetration. The walls therefore cannot act as separators of 20'-24' dimensions, but must in some way assist and reinforce this other direction. The wall may turn and move with the access direction taking on a lateral zone. It no longer remains a single 2-dimensional line in space. The wall should also allow for some reference to inhabitation at a variety of levels and sizes.
In taking the system of party walls, the extension of the field of walls is the equivalent of a 'trace'.
it is the first step in the development of a language, an organizational field.
By its deployment and transformation, the formal flexibility of the primary structural system suggests the beginning of territorial definition.
It is understood to have the potential for supporting use.
The system is not restricted to creating only one type of space; partial containments and continuities of space may be achieved.

The intention is, that by introducing the range of sizes, difference in edge conditions, and a three dimensional capacity to the walls, a formal legibility and pluralistic building structural system may be arrived at:
A structural system that is participatory with both the building and the larger built environment of which it is a part.

A unity is achieved due to the common language of form.
and a diversity is achieved because of the options inherent in the pieces.
Above: process model of the study of the linear transformation of the party wall towards a 3-dimensional spatial element.

Final Model
Sections showing the walls and variations in the structure.