Boston Urban Farm:
Mending the Southwest Corridor

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Boston Urban Farm: Mending the Southwest Corridor

by Timothy Smith

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Abstract

This work studies Boston's segregated nature in terms of race and class especially as this coincides with the physical form of the city. Known for its strong neighborhoods, Boston cannot escape definite boundaries between these communities: ones which are not static, but are constantly shifting. The city's recent redevelopment, consequently, has displaced once cohesive and viable ethnic communities, demonstrating that economic reinvestment can be directed either towards a heightened exclusivity or an integrated inclusivity.

At about the time the Berlin wall was constructed, the Commonwealth of Massachusetts cleared a swath of land through Jamaica Plain and Roxbury for a proposed eight lane southwest expressway. Community activism and opposition ensured that the road was never built. For twenty-five years the land has remained virtually vacant: a gash in the landscape that formally separates Roxbury from the rest of Boston. As the wall in Berlin comes down, how might this tear in Boston be mended? In essence, how might a perceived barrier be transfigured into an active seam in a formal and social sense? Such a project requires an examination of contemporary urbanism, which has contributed to the fragmented nature of American cities, and a proposal for an alternative urbanism.

Part of the legacy of Boston's communities is its urban gardens which serve not only for food production, but also for bringing disparate communities together. In a city divided formally and socially, concurrently, I believe proposals for building on these perceived barriers can be most successful when they embody a physical and programmatic response. One without the other is a lifeless gesture. With these issues in mind I propose to build the Boston Urban Farm within the southwest corridor swath. The farm consists of residences, commercial space, farm activities such as planting and harvesting, and greenhouse constructions which may serve the many educational institutions in the area with opportunities for earth science and botanical research.

Advisor: Fernando Domeyko
Title: Professor
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Where to begin. Where it began.

To my mother and father for the example they set for the length of my life, to this point and now beyond.

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This work is dedicated to Eric or Erika Lanzarotta-Smith, due October 1990.
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As a solution for addressing the concerns of segregated urbanism, which exists physically and socially, biologically, and therefore personally, one might consider the proposal of a Boston Urban Farm, which is herein defined:

Urban, by nature of its density
Farm, by virtue of its food producing potential.
Not an implant of a rural setting
No gambrel roof or red barn
Fewer cupolas, more solar collectors
Less weather vanes, more rain sheds
Fewer farmhouses, more greenhouses
Not rows extending rise beyond hill to horizon
Not a landscape found, but one built,
Not unlimited expanse, but efficient expense
High density, diverse, integrated: socially, formally, agriculturally.
Preface

As a child growing up in New England I remember trips through the country where we would see distant wooded hillsides cleared for a high voltage power line system. We could only comprehend the image by suggesting that the green giant had taken one of his fingers and dragged it through those woods over mountains and through valleys; hence, the clean swath was created. No harm done, and the benefits of electric power could be enjoyed by distant villages.

As an adult living in Boston the equivalent of the swath in an urban landscape is not quite so plaintive or pastoral. Historically, the finger of the green giant in many cities has been the will of political motive with consequences of large scale slum clearance causing the displacement of many poor and powerless, and creating cities that are segregated socially, reinforced by physical barriers.

This study attempts to observe formal consequences of such interventions, especially emphasizing how they are perceived to contain the elements of a boundary. The boundary is capable of performing two functions, that of a barrier which divides or conversely a seam, which binds together.
Introduction

Mind takes form in the city; and in turn, urban forms condition mind. (Lewis Mumford)

When considering the physical qualities of an urban environment, one must reflect on the tension between the age-old counterparts of behavior and form. In short, attention must be directed towards whether "the physical characteristics of the built environment tend to be epiphenomenal"—the spatial consequences of social interaction; or whether the physical morphology itself determines social behavior by influencing our perceptions or by some meaning or symbolism inherent in physical monuments or interventions. (Colquohon, p. 223)

Though academic arguments develop easily in response to the debate, that is, what follows which, one can easily comprehend that human behavior and physical form exist in a dialectic tension: depending on the circumstance, each directly informs and determines the other. There is no better example of this dialectic than the large scale urban renewal efforts of the 1960's in America.
Many images come to mind: Physical interventions such as slum clearance, financial district development, the placement of new parks and waterfront walkways, highway construction. Each of these evoke an emotional reaction because of one's associative relation to that intervention. For instance, to the suburban commuter, new highway construction encourages behavior more dependant on the automobile; to the displaced citizen the reaction is often rage. When acted out spatially, the visceral reaction sparks a behavioral response to the built environment: whether this leads to a greater dependency on the automobile, or whether it leads to riots, physical form certainly determines behavior.

On the other hand, behavioral images such as riots, parades, tenant organizing, block parties, community gardening, promenading, window shopping each evokes a visceral response depending on one's association to that behavior. An image of the physical environment in which these events are acted out is also created within the mind's eye due to our formative experience in the built environment. Individual and collective social demands lead to some measure of determining the nature and form of the built environment. Certain social interactions demand certain forms.
When social behavior resonates with physical form, a condition results that is unmistakable: nowhere is this more apparent than in cities divided by class and ethnic association. One has only to witness conditions in South Africa to understand the physical manifestations of social and political behavior.

In Boston, the color line is perhaps not as vulgar, but it is equally apparent. Black neighborhoods are formally and socially isolated from the rest of the city. The Southwest Corridor is the focus of this discussion because it represents the boundary between two communities.
What seems certain is that we live, work, and interact in a physical world reinforced by social attitudes, many of which foster inequity and segregation. When formal division coincides with racial, ethnic or class divisions, a solution that addresses the physical and the social aspects of the segregated condition must be proposed. In addition to the political/social and the physical proposals, a third component must be addressed — that of the ecological world. The social and physical manifestations of isolation and segregation find a counterpart in the urban relation to the natural world, to the point that the natural environment has been considered to be anti-urban. Social inequity and formal fragmentation thematically find the third disparity in ecological disunity to the point that human and "natural" are considered antithetical or at best, incompatible.

It is necessary to reconsider the attitude towards urbanism that has rendered our cities in the condition that we know them. To confront the fragmentation, an integrative urbanism must be considered: Its three elements of the social, formal and ecological equally exchange and bring to bear influence on the design or redesign of cities.

The Boston Urban Farm, then, is a proposal to reacquaint human interaction with the ecological world, mend a formal division between Roxbury and the rest of Boston, and integrate social diversity in harmony.
1. Case Observations

instead of assuming that changes in the social structure of the city should be accomplished first in order to change the physical appearance of the city, ... [Haussmann believed] that it is somehow better and certainly easier to change the physical landscape in order to alter that social patterns of the metropolis. p 90-91.

Following are brief descriptions of three cities remarkable for certain isolationist practices. The phenomenon of the resonance of physical form and social behavior is not a peculiar aberration of exceptional urban conditions. Though the manifestations of each city may differ, the human tendency to rationalize the physical and thereby the social landscape seems universal.
Paris

Historically well documented renovations in 19th century Paris can be interpreted as one of the most resounding concurrences of physical form and social behavior. George Haussmann responded to a social and physical malcondition in Paris by reconstructing the city: a slum clearance process which displaced the poor and working classes and isolated them in workers' towns far outside the city center. Haussmann used a physical intervention to "resolve" a social problem.

Haussmann's..."means of correcting the wretched housing, difficult transport, the lack of political control are important to us now because he was the first to look on the solution of these problems as essentially interrelated, What one did with transport could also be a means of dealing with the populace when civil disorders occurred; how one removed the housing... was also a way of defining the relations between the social classes... avenues..."acted like river boundaries dividing different socioeconomic sections of the city. p 90.

In hindsight, one might contend that the reconstruction of Paris was indeed the most constructive option in the end, that such surgery was required to save the life of the city. Of concern, however, is the proposition of deploying physical interventions that not only have social consequences but are employed for attaining social ends, rather than vice-versa. Had Napoleon III encouraged economic equity among the different classes, how might the physical environment have been affected? Would the present grandeur of Paris exist if such extensive renovations had never been implemented?
Unlike Paris in formal respects, post-war 20th century Berlin suffered great political dislocation as it manifested itself as a city divided in two. The division, similar to an organic cell dividing in two, realized its physical dichotomy when the Berlin wall was erected in the 1960's. For thirty years a swath as wide as one hundred meters separated a once cohesive city, interrupted major street arterials, buried churches, businesses, and housing in a physical outgrowth of the war's devastation. [diag and photo]

Even in the current period of reunification, the physical appearance of division as a outcome of social and political difference will long be the image of Berlin that is etched in the mind of any one who has visited the wall. Before the wall began to be demolished in the spring of 1990 some suggested that the wall remain as a monument to the Cold War, so comfortable and familiar have we become with symbols of division.

Unlike Paris, the division was not of a renovative nature, nor was it one of separating the rich from the poor. The Berlin barrier was one of containment and exclusivity: the east explained the wall as necessary
for keeping out western influence while East Berlin was rebuilt; the west concluded that the wall existed for containing eastern citizens who were emigrating to the west. What has resulted in 30 years is akin to two siblings maturing far from each other: same biological make-up, different dress, political orientation and standard of living. The issue of note for this study is the deployment of the wall as an intervention with the expressed intent of dividing and isolating people.

One recognizes that the similarity between Paris and Berlin is that both used physical interventions for social and political ends. In Paris, the boulevards as defining boundaries are inhabited; the Berlin swath is not. In Paris the boundaries extend a mere implicit understanding of division; in Berlin the vulgarity of the wall is explicitly laden with an unequivocal message.
Considered for its physical morphology the city of Boston is a rich and varied environment. From the esplanade along the Charles River to the Harbor shores of South Boston to the highlands of Franklin Park and the Arnold Arboretum, Boston is an "imageable" city for its physical definition and variation. ("Imageable" being that quality in a physical object which gives it a high probability of evoking a strong image in any given observer. See K. Lynch, Image of the City).

As well as imposed physical form, there are natural boundaries that may reinforce social allotment of land and dwelling. One may observe the natural, pre-existing phenomenon of hills and harbor, river and plain. That human intervention can be imposed on these natural phenomenon more subtly than in neighborhood divisions is seen in Olmsted’s Emerald Necklace — a four mile winding parkway that provides a landscape continuity from the Charles River to the largest parkland in Boston: Franklin Park. Much of the parkway coincides with a pre-existing swamp and stream. Road building including mid-20th century highway construction, and building construction are comparable determinants of physical form and social geographic containment.
Similarly, Boston is known for the strength and identity of its varied neighborhoods. From the Italian North End, to Irish Southie, to progressive Jamaica Plain, to the predominantly white higher society Beacon Hill and Back Bay. Ethnic homogeneity of these neighborhoods has eroded somewhat over the years, yet each can still be identified by social class definition. Though the diversity of these neighborhoods is held up as the city's heart, precisely these differences threatened to destroy the soul of the city during the 1970's busing controversy over attempts to racially integrate the city's public schools. (see A. Lukas, Common Ground). When bringing together an understanding of physical morphology on the one hand and social geography on the other, Boston is a telling example of the resonance of physical form and social isolation.

Referring to a map of Boston which considers the physical and social, one can comprehend Boston as a place which resonates with the coincidence of physical and social definition.
From this illustration, then, the natural and man-made morphology may reinforce social allotment of land and dwelling. This also corresponds to racial division.

Most of Boston's black, hispanic population lives south and west of the city. Originally built and inhabited by 19th century downtown residents who desired country summer houses, one cannot conclude that the physical typology of the buildings themselves are characteristically different from the wealthier Back Bay brownstone and brick. However, the worn condition and physical integrity of the minority neighborhoods are a world apart from the other neighborhoods of Boston.

Diagram of racial distribution
When one superimposes this data onto the map of Boston, one cannot help but conclude that physical form does indeed correspond with social/racial division.
Kevin Lynch, in the *Image of the City* examines the way in which residents of a city interpret the form of that city in terms of their familiarity with its paths, nodes, and monuments. If one assumes that physical boundaries in Boston correspond with the racial divisions of the city, it is possible to determine the location of the "color line" in Boston: a line that is certainly migrating away from the city center due to reinvestment and gentrification and which isolates persons by reason of their social standing with physical form. To be sure, it is a line that deters minority attendees at Red Sox games or concerts on the Esplanade.

Through these case observations, then, of Boston, Berlin and Paris, it is clear that certain boundaries have existed and continue to exist. These three cities illustrate that boundaries, though often most tangibly observed in a social context, and equally delineated through physical form.

The subsets of such boundaries are made up of barriers and seams: a boundary which divides or a boundary which forms a connection. Both are boundaries by reason of definition, but dissimilar in most respects. What is of most interest to this study of Boston’s Southwest Corridor is determining the potential of transforming barriers into seams.
2. Barriers and Seams

"Before I built a wall I'd ask to know what I was walling in or walling out...good fences make good neighbors..."

— Robert Frost

The line distinguishing a barrier from a seam is a fine one determined by the social reinforcement of attitudes towards such a demarcation. In essence, the definition of a boundary is dependent on the socio-political attitudes of the persons effected by the delineation. Certainly without knowing the social atmosphere of a city or region, the presence of a physical formal demarcation may not be enough to determine the nature of its intent. One person's barrier is another's seam. Also the meaning of these boundaries may fluctuate and transform over time.

By definition, a barrier may be denoted as exclusive while a seam is inclusive; while one is impenetrable, the other will be just the opposite. Each evokes an emotional response: one suggests potential for connections, the other ensures futility and despair. On the other hand, however, a barrier is certainly more protective.
Language by itself is inadequate in determining whether the adjectives used describe a social condition or a physical form. In many cities, the barriers and seams are more subtle and socially defined without physical reinforcement. To be sure, the adjectives above describe both the physical and social. Again, one is confronted with the dialectic between the physical facts and human behavior as determinants of urban form.

A boundary or "edge" may be more than simply a dominant barrier if some visual or motion penetration is allowed through it—if it is, as it were, structured to some depth with the regions on either side. It becomes a seam rather than a barrier, a line of exchange along which two areas are sewn together. (Lynch, p. 100)

Looking again at Berlin, language used to describe the concrete-asbestos wall also defines the socio-political relationship between east and west. Now that the wall is being removed, one may witness the transformation of this physical barrier of the Cold War into a physical seam of Perestroika. Whereas the wall once set limits for social interaction, the integrated urban form also becomes the metaphor of our social relationships.
Berlin, with the presence of the wall and the swath possessed a barrier by reason of political decree; when the climate changed, and the wall suddenly was dismantled, a seam which always existed potentially was now realized. Always a boundary, the barrier was transformed into a seam.

What are the choices for creating a seam as opposed to creating a barrier through building? If a division is suddenly bridged, how is the bridge to be inhabited?

In Berlin, international corporations vie for "newly available" real estate and commercial positions since this city is projected to become the new capitol of Europe. Environmentalists appeal for preserving the swath for natural purposes since in 25 years, animals uncommon to the Berlins have found undisturbed peace in the zone. Of course, there are those who desire a new superhighway to be built in the swath. There are others whose livelihood near the wall depended on the conventional social abhorrence of the wall. Streets, disconnected for a generation will flow whole again...
In Boston, the Southwest Corridor, simply because of its vacancy, suggests realistic potential for rebuilding this area as a seam in order to reconnect the continuous neighborhoods along the corridor. The history of this area, as only one boundary of many in Boston, girds the potential as social movement and activism itself transformed the area from what would have been a dividing barrier of a highway to the large landscape as it now exists.
3. **Seam or Barrier in Boston: the Southwest Corridor**

By the end of the 19th century, Paris had divided into two cities: one rich, one poor; one healthy, and one plagued by illness. (Shapiro, p. 84)

The Swath, Berlin, Boston
Bomb or Urban renewal
25 years later, what is the difference?
vacant land targeted for development
Boundary and wall, poverty and political
Building blocks on a rock: detachable, removable, destructible

Path of least resistance
of tornado
of bombing raid
of bulldozers, does it matter? Same result.
Need for setting foundations, digging in, entrenchment, working the earth, setting fingers deep.
No more paths, no more swaths. Barricades?
— journal entry 2/90

"Boston is two cities ... One is a city of activity and progress, of a dramatic two billion dollar public and private renewal program which has greatly stimulated the job and money markets and has given corporate Boston new self-confidence. The other is a city of many neglected neighborhoods, of people alienated and often untouched by the new Boston." (Lupo, p. 28)
Boston's Southwest Corridor may appear formally similar to other American cities which experienced large scale slum and industry clearance for the construction of highways in the 1960's. About the time that the Berlin wall was under construction, the Massachusetts Department of Public Works began demolishing residences, businesses and industries for what would have become the Southwest Expressway portion of Interstate 95 in Boston. Mission Hill, Roxbury, and Jamaica Plain, largely residential communities in Boston were the most affected by the land clearance.

The most heavily impacted area along the Southwest Corridor was and is Lower Roxbury which was to be the site of an eight lane interchange consuming "thirty-five acres in the shadow of two public housing projects, three planned low-income developments and a campus high school in Roxbury." (Lupo, p. 26) "More than 5000 families will be displaced and long established, healthy neighborhoods uprooted to build expressways which still do not fit in with the long term transportation needs of the area." (Urban Planning Aid report, October 1966. Lupo, p.17-18.)

Give us your cities, their historic areas and buildings, their precious parks, cohesive neighborhoods, and we will rend them...
Urban freeways cut white swaths through black neighborhoods but this is not discrimination, it matters little whether they are black or white, rich or poor—although black and poor is easier. p 31. McHarg,
The selection of the corridor for the new highway was not accidental for topographic reasons as well as for socio-political reasons. The morphology of the area made the level pass between Fort Hill and Parker Hill the only likely route; the corridor also followed the existing railroad right of way. Throughout the United States, Federal Highway money was allocated for the demolition aspects of "urban renewal". Usually, new highways passed through minority neighborhoods because of the characteristic deterioration of physical infrastructure as well as the political impotence of citizens of color.

Business loss in the swath...

...business gain: turf wars between developers and gangs
Over time, one can easily observe the massive obliteration of the historic neighborhood as if a slate were cleaned of chalky figures.

1931: industrial and residential neighborhood

1960: showing signs of decline
1970: bulldozers or bombing raid?

1990: new construction usually massive and monumental
If the expressway had ever been completed it would have cut a wide swath through housing and business districts, and it would still divide the community more perceptibly than the railroad right-of-way had done." (Lupo, p. 31)

Local opposition which emerged from Jamaica Plain, Roxbury, and other affected neighborhoods was key in ensuring that the proposed highway was never built. After years of litigation, environmental and transportation studies and community organizing, the Commonwealth of Massachusetts submitted to the community pressure. Thus the Southwest Expressway was never realized. However, the consequences of the demolition left the zone along the railroad right of way a wasteland void of a discernible urban pattern, vacant of buildings: a vacuous boundary that distanced Roxbury from the rest of Boston.

As noted previously, Boston is an imageable city not only for its picturesque beauty, but for its segregated nature as well. It is a city defined by boundaries, some of which are more akin to barriers than seams. The Southwest Corridor constituted a boundary and its recent and future development will determine its nature as a seam or barrier in the social sense but moreover in its physical interpretation and form.
Several of the built or formal interventions speak encouragingly for the Southwest Corridor as a seam.

1. 1975-85: construction of the Orange Line/Southwest Corridor Park system:

**physical description**: setting the Orange Line train and Commuter rail in a trench and bringing over the tracks from Tremont Street north to the Mission Hill extension.

**physical consequence**: a continuity or continuous surface of landscape unhindered by the train tracks, offering tremendous opportunities for understanding the site as a seam;

**shortcomings**: essentially the "first move" and completely a landscape move under which the original dimensional character of the neighborhood is buried; accompanied by no building; vast and incomprehensible at the pedestrian scale;

**solution**: intensify building in the area, reconfigure street layouts to recapture neighborhood scale: SWC is still a corridor through which to drive and pass quickly...
2. 1980-85: construction of Ruggles T stop:

**physical description:** touted as the great gateway between the two communities, the impressiveness of the station is mostly in its image and is in itself analogous to the SWC in that it too is merely a corridor through which to move (which it was successfully designed to do)

**physical consequence:** a pedestrian link through a single shaft which pierces a severe wall on the shady north side;

**shortcomings:** after the landscape move, this effort seems miniscule...reinforces the direction of the train and Tremont vehicular movement at the expense perhaps of a greater continuity between the two neighborhoods; perhaps too much building and not enough landscape.

**solution:** think of pedestrian "links" as broader than a shaft, and remember that landscape is bigger than buildings.

Severe north wall through which pierces the main access
3. 1985-1988: redevelopment of the Mission Hill extension public housing:

**Physical description:** reduction in scale and transformation of the appearance to 3 of six seven storey housing blocks to about 3-4 storeys; introduction of wood to a brick structure. introduction of landscaping and individual entrances to buildings. buildings essentially oriented north-south lengthwise.

**Physical consequence:** a breaking down of an imposing housing block to a more human scale; a precedent suggesting a further transformation of the development.

**Shortcomings:** still located on the massive impenetrable block size, isolated and cut off from the community.

**Solution:** penetrate block with streets to reduce massive scale and publicize the development; attempt to integrate landscape through and between buildings. introduce roof gardens. soften edge along the train tracks/tunnel.

Doorway in existing public housing project

Remodeled Mission Hill extension
General comments:

- #1: all landscape, no building; #2: all building, little landscape; #3: attempt to integrate building and landscape (good clues for future development).

- Other references: new construction:
  Madison Park High School/Humphrey Occupational Resource Center (1974): massive bldg in the landscape;
  Madison Park village (1974) suburban scale townhouses set in the landscape; some landscaping little of which seems useful.
Physical form-making as discussed finds greatest power when reinforced socially. Social difference is heightened when reinforced physically. The Boston Redevelopment Authority has encouraged that the development of the Southwest Corridor be inclusive of the many institutions in the area. The neighborhood surrounding this area in lower Roxbury is institution rich when considering the location of universities, colleges, high schools, junior high schools, churches, libraries, community centers, occupational resource center, health clinic, and nursing home for the elderly. With this objective in mind, development of the Southwest Corridor boundary towards its realization as a seam must occur formally yet reinforced by a programmatic vision.
Considering the decisions that have helped evolve Boston, Paris, Berlin, among other urban conditions, one might consider the proposition of an urbanism that essentially attempts to correct past errors that have determined the form of cities. Perhaps this requires an approach to urbanism that is mindful of the past while transforming barriers of thought into thoughtful seams, considering cities as whole organisms.

Storrow Drive: usually a traffic barrier converted to pedestrian seam on Earth Day, 1990
4. Looking for a New Urbanism

The organization of urban form by definition is one of rationalizing land in a comprehensible ordered pattern. By contrast to rural form in which the landscape is larger than the human interventions of roads, farms, and dwellings, the built landscape is usually confined to discrete buildings, packaged and parcelled in the city and bound to the grid. The very foundations of our urban form may be considered to be based on "disintegration". Consider a perspective on the origins of urban form:

Born when one group of men succeeds in making itself independent of the land through the food producing efforts of another...the unity of the life process is destroyed.
(Kurtz, p. 69)

Essentially, the separation of food production from urban dwelling established the paradigm for a long history of urban life separated from agriculture. The most recent example of this fragmentation is the 20th century phenomenon of suburban development as an attempt to integrate the best qualities of urban life with that of rural life. In most instances, however, the suburbs achieved neither, and further isolated agricultural production from urban dwelling as more fertile land peripheral to cities was converted for suburban development.
Socially, the suburbs isolated people from the problems of the city, while the physical transformation of cities were based on accommodating the suburban commuter: highway construction, parking garages, and security measures that protected non-urban dwellers during their visit downtown.
Theories of urbanism of the past century have emphasized only part of a complete equation necessary for redefining urbanism for the next century. Three inclusive components seem crucial to addressing the needs of today's cities. For ease of discussion, the suggested terms are political, ecological, and formal. These are not mutually exclusive terms; indeed, they are mutually dependent.

So defined:

**Political:** anything to do with civic authority, economic restraints, or social aspects of urban life. Primarily to do with human contribution to civic urban life. Positive aspects: movements towards social equity; negative: displacement and further segregation...

**Ecological:** the natural world present in the city usually associated with parks, trees, and gardens but capable of encompassing a wider focus of composting, soil building through waste treatment, reduction of industrial and auto emissions, water reclamation, alternative energy sources, sustainable design, urban agriculture. Essentially concerned with the protection, enhancement and cohabitation with the natural environment.

**Formal:** essentially encompasses the physical environment as introduced by human activity; the built urban landscape in the city. Having to do with aesthetic propositions and physical attributes of the urban world.
If one looks very briefly to several examples of urbanism in the last century, one can easily find each of these components in theories attributed to urbanists such as Georges Haussmann, LeCorbusier, and Ebenezer Howard.

Haussmann's reconstruction of Paris was ostensibly for sanitary reasons. He employed several formal approaches to achieve the ends of a new city: boulevards for instance. Politically, though he was appointed by Napoleon III, Haussmann's renovation nonetheless was disastrous for the poor and working classes. Modern day relative of Haussmann's interventions: urban federal highway construction.
Le Corbusier's Ville Radieuse represented the desire to free the natural landscape by increasing vertical density in tall towers. The modern interpretation of this theory has given us the public housing towers which rise above an unusable if not dangerous landscape.

Diagram illustrating the development of a town by means of self-contained suburbs with belts of open space. See page 2.

Ebenezer Howard's Garden City, essentially anti-urban, was a construct of self-contained local communities organized around common identity and similar lifestyle. Though there have been successful versions of the Garden city, the present interpretation is the commuter suburb which ensures greater dependency on the automobile as well as establishes bastions of social homogeneity that are indifferent if not hostile to the urban scene.
One cannot deny the value inherent in each of these theorists along with others from whom present day designers and urbanists draw ideas and put forth propositions: Sitte, Garnier, Mumford, Wright, among them. Perhaps the trouble lies in the built interpretation of these theories in our cities. Responses by the modern movement to urban blight strove for the best objectives: green space, light and ventilation. However, the physical manifestations of such an urbanism—vertical streets to free the landscape—further detached human beings from the land in a formal sense. For example, the pedestrian path named the "Thoreau Path" through Charles River Park in the West End constitutes an empty gesture. This may be partially explainable due to the segregation of building and landscape: a boundary essentially exists where the landscape ends and the building begins.

One often hears the argument that the elimination of low-income "unstable" neighborhoods id beneficial to the city. It is called "slum clearance" — Lupo, 216.
In Boston, the Southwest Corridor may be considered as being inspired by Haussmann, the towers of Charles River Park, with their earthbound Thoreau Path, coaxed by the ghost of Le Corbusier, and the suburb of Weston to be the realization of the Garden city. Each possess the three components, though they cooperate improperly; herein lies the dilemma.

"The promotion of an aesthetic that divorces perception of an artifact's social and ecological effects from appreciation of its formal qualities has a clear propagandistic function." (Kurtz, p. 11)

The political, ecological, and formal/aesthetic aspects of a new urbanism must be integrated and re-examined periodically to achieve the lofty ideals of social equity, natural health, and aesthetic harmony.

"As a man-made environment every city has three functions to fulfill: it must be a just and efficient social institution; it must be a biologically wholesome habitat; and it must be a continuously satisfying aesthetic-sensory experience." (Jackson, p. 87)
The earth of the late 20th century urgently requires a rethinking of urbanism, as we have conceived of it for centuries

"...during the last century and a half we have persisted in separating man from nature and in keeping them separate. The separation I mean is not primarily a physical one, an inevitable outcome of modern urban existence; it is a separation incorporated in our dichotomous way of thinking." city planning not "purely social and economic objectives"..."the city as a cultural achievement is threatened with extinction..."

(Jackson, p. 79)

Recent studies and an awareness of the condition to which we have brought humankind worldwide reveals a slight shift in perspective, one which requires more than a Haussmann solution. The time seems appropriate for radically alternative proposals addressing ecological issues as a part of complex urban issues. Every human action finds its consequence in the natural environment; every building contributes to a quantifiable result.

"...every time we heap up a mass of masonry or cut through a hill or drain a swamp or plant a row of trees or fill the air with smoke or pave an open area we are to some extent changing the local climate, the local environment, and changing our own physical condition. It is merely a question of putting this knowledge to intelligent use in the design of cities...it is puzzling to note how little the average urbanist seems to care about the climate he is unwittingly creating, or about how it can be controlled. (Jackson, p. 81-82)
No longer can architecture/urbanism be driven locally without concern for environmental effects locally and globally. This requires the integration of what has been defined as the political, the ecological and the formal. One or two without the third will maintain our present course, a course that the earth is unable to sustain, one that further divides cities formally and socially.

An urbanism that isolates building from landscape becomes as futile for building truly habitable cities as does the deployment of social programs to solely correct the inequities of urban form. An urbanism that integrates building and landscape, reinforced with use and program, may promise an advance in a direction towards the transfiguration of urban barriers into seams.

Such an urbanism speaks to the conditions of boundaries most articulately. If it can be defined generally as an integrative urbanism, then it can be realized in a specific circumstance.
Whereas boundaries are characteristically clear and definite, an integrated urbanism suggests a purposeful ambiguity between public and private, real and fantastic, outdoors and indoors, nature and technology...People move through trees and thresholds as easily as they see the two in the same glance. There is no line where landscape stops and architecture begins. (Solomon, p. 113)

In addition to the formal sense, a social program enhances and is relative to the formal qualities, wherein colors associate interactively, brownstone, brick, steel, glass brown, red, black, and white Hispanic, Native American, African, European

Explained formally, the integration of architecture and landscape is commonly known as *green architecture*. The element of the ecological, so long left out of the discussion of architecture and urban planning beyond obligatory environmental impact reports, is needed in an age of veritable environmental threats such as leaded soil and air, acid rain, ozone depletion, water pollution, and toxic waste.
An integrative urbanism holds cities within their means, is integrated between:

- landscape and building
- natural/rural and built/urban
- working class/poor and middle class/wealthy
- production and consumption
- two sides of a boundary
- life, work, position.

"As a man-made environment every city has three functions to fulfill: it must be a just and efficient social institution; it must be a biologically wholesome habitat; and it must be a continuously satisfying aesthetic-sensory experience." Jackson, p. 87.

Natural processes are unitary...human interventions fragmentary. (McHarg, p. 65)
5. **Farm in the City**

Whadda we need all this stuff for, anyway? You can get everything you need at the supermarket!” Social studies have also been antisocial in their failure to emphasize America’s dependence on topsoil, water, compatible atmosphere, and photosynthesis. This insularity is the most effective, and potentially the most dangerous, form of segregation confronting the United States. (Howard, p. 10)

Once we can accept that the city is as natural as the farm and as susceptible of conservation and improvement, we work free of those false dichotomies of city and country, artificial and natural, man versus other living things. (Lynch, p. 256-7)

Characteristic more of urban dwelling than rural habitation, persons are separated from the functions of life to the point that their labor exists for cash payment rather than for visible fruits. The knowledge of the unity of sustenance, consumption and processing [waste] are like the urban building lot, neatly packaged and parcelled, fragmented. In the absence of this knowledge, persons are isolated/segregated from the process of life’s integrated potential and the fragmentation serves only to isolate one more. It is a metaphor for anomie, and for alienation.
In many facets of one's daily life, the evidence of fragmentation is clear. For instance, rising in the morning, one desires heat and with a flip of the switch triggers the oil/gas burner without knowing from where comes the oil or gas, beyond the monthly oil truck. Using sink and toilet, clean water appears briefly before turning grey or black and draining to places unknown perhaps with only a faint hope of purification. Meals are a matter of remembering to stop by the grocer. Again, gas or electric heat, cooling for preparation and preservation: orange juice from a can.

the more specialized the city dweller becomes, the more dependent, the more incapable of caring for himself, the more threatened and insecure on levels too frightening to probe. Other people provide his food, clothing, shelter, and water, remove his garbage, protect him from thieves, and cure him of diseases he no longer understands. (Kurtz, p. 70.)

There are large numbers of urban poor for whom the countryside is known only as the backdrop to westerns or television advertisements...in classical times the barbarians in fields and forests could only say "bar-bar" like sheep; today their barbaric, sheepish descendants are asphalt men. McHarg, p 19.
Clearly, city dwellers are removed from the physical processes required to sustain an urban lifestyle. One lives by a "toilet assumption" that the products of this lifestyle disappear down drains, toilets, and under landfills. If the problem is out of sight and out of mind, then it ceases to exist as an critical problem which requires an immediate solution. The physically fragmented nature of urban dwelling is not far removed from social disunity.

This "assumption" might well extend also to our sociological problems of gang warfare, drugs, urban violence and homelessness: in Boston, as long as most of the murders, shootings and stabbings are confined to the unseen, invisible part of the city, statistically in Roxbury, then the problem is tolerable. When the killing extends to the middle class neighborhoods, then the city "reacts as if a sewer backed up" (Slater, p.21-22). Indeed, there is a fine distinction between the way cities currently approach the problem of waste disposal and urban racial segregation. "Out of sight" is a good bet for attaining the "out of mind." The consequences however have both a physical and social implication.
Integrative urbanism is capable of addressing conditions of the physical and social borders currently in place in our cities. The term integrative is applied here broadly and interdisciplinarily. It is an issue of responsibility. Locally and globally, it requires that a site handle responsibility for its own consumption and production so that persons live within their means, making less demands on resources designated for other people, such as those in the third world. This urbanism encourages the users of the site accept responsibility for the physical and social demands put on the site.

"We are evolving a social landscape as well...it is possible for the landscape to provide us with some symbols of permanent values. It is possible for it to provide us with landmarks to reassure us that we are not rootless individuals without identity or place, but are part of a larger scheme. The landscape can do much to reinforce our identity as political beings. (Jackson, p. 152.)

Consider an environment in which the food consumed is the food grown only feet from one’s door, where the waste products generated daily are not pumped, shipped, trucked, loaded, driven, incinerated: not buried anywhere but under one’s feet; where solid waste is used as a fertilizing source, purified and returned to the earth; where heat and hot water are stored and released as needed. Consider an unbroken cycle in which one is completely aware of his/her participation in that
national priorities..."will only change when individuals assume the responsibility for meeting their own basic needs and, in so doing, refuse to be partial and dependent men. When that happens, not only the quantity but the quality of urban housing will rise dramatically. Kurtz, p 70.

cycle; where the consequences of one's living processes are not transported away but accepted within.

"the separation of men into food- and non-food producers is exemplary of a horizontal social stratification that results inevitably in a vertical ordering..people become specialized, and become identified with their specialty, values change, therefore the value of persons "is made to rise and fall." (Kurtz, p. 70.)

As a solution for addressing the concerns of segregated urbanism, which exists physically and socially, biologically, and therefore personally, one might consider the proposal of a Boston Urban Farm, which is herein defined:

Urban, by nature of its density
Farm, by virtue of its food producing potential.
Not an implant of a rural setting
No gambrel roof or red barn
Fewer cupolas, more solar collectors
Less weather vanes, more rain sheds
Fewer farmhouses, more greenhouses
Not rows extending rise beyond hill to horizon
Not a landscape found, but one built,
Not unlimited expanse, but efficient expense
High density, diverse, integrated: socially, formally, agriculturally.
6. Design decisions

General observation

Importing a rural typology into an urban form raises issues that correspond to the tripartite urbanism recently discussed. Arguments against such a proposition of an urban form respond to the perceived inappropriateness of a farm in the city from a formal point of view, as well as from a socio-political and ecological view. Farms, by definition and by our association to their rural reference are inappropriate if transplanted to the city with little transformation. The rural reference, nonetheless, grants information when one observes the differences and similarities in rural and urban landscapes.
What seems clear in the rural context is the division of private property is a somewhat vague and arbitrary assignment. The grid is a facile, easily mapped rationalization of the landscape: one that is largely unhindered by issues of human differences. The delineation is not according to specie: the basic grid is a structure that is independent of what happens to be grown within its boundaries.

One might even perceive the distinct lines between properties as seams that bind the patchwork together, especially when seen from the air. One’s eye is lead to the edges: In this way, the edge embodies a certain intensity created by the collision or meeting of two distinct entities, though this seam be not more than feet or yards wide.
A common pattern for building in rural areas is a respect for the grid and edges. Farm residences and work buildings often constructed near the center of the "square" as opposed to the edges: rural response. The edges are left for fencing, and for interconnecting township roads: spread out landscape, privacy, space surrounding as defensible.

Farm housing and work buildings situated near the interior of the "square" and not at the edges.
The borders are not defended with built structures or fortifications; residences are insulated from each other by large dimensions in the landscape: the edges become diffuse into the larger landscape and boundaries are less physical and more implied. Open spaces are enlarged beyond property lines to the appearance of the next built farm. The landscape is larger and more visually common.

The urban condition is far the opposite in perception: the rationalizing grid is defended along its edges with buildings: the land is used intensely though not ecologically. Cars are stacked as easily as people. Any existing green space is usually overrun and overgrazed by the public. The urban landscape is smaller perceptively; horizon views are interrupted by a vertical orientation. Unlike its rural cousin, the intensity along edges is built. Boundaries are more physical and intensely defended. They are more explicit than their rural counterpart. Common space shared along the edges and defined by and shared along the urban edge.

Urban condition: inward open areas, public areas defended and delineated by privacies.
The city owes something of its formal qualities to the rural patterns since the city is a direct descendant of the country.

There is a familiar resemblance between the patterns of cultivation and urban plans. Formal and agrarian views are based on similar comprehensive patterns. Furrows deepen into streets, trees become columns, and cleared fields become plazas. Grids of orchards become the ground plan for buildings. Buildings are planned in conjunction with streets. Green walls reinforce inhabited corridors. Farmsteads are perimeter blocks. (Solomon, p. 113.)
Conceiving of a clear path or swath in each context evokes quite different understandings for their existence. In a rural setting, such a clearing within the larger landscape is sustained formally by a larger context: the continuous natural world that exists on either side of this swath. Conversely, in an urban setting such a path often is exacerbated by the political (human) landscape that is both the cause and effect of a boundary: though the world of dense human habitation may be as continuous as the rural context from a biological point of view, sociological concerns often explain the vast differences of race and class divided along boundaries that may coincide with physical borders in cities. Differences within a society, be they political or racial, may mean differences formally represented by the presence of such a clear path.

"so the beginning of the path is marked by the abandoned means of transportation and the area near the railroad tracks. We are welcomed to the city be a smiling landscape of parking lots, warehouses, potholed and weed grown streets where isolated filling stations and quick lunch counters are scattered among cinders like survivals of a bombing raid." Jackson, p 95.
Specific observations

When specifically addressing the site, the task involves applying the observation of boundaries, be they barriers or seams, and utilizing an integrative urbanism that attempts to transfigure barriers into seams.

To review the discussion in part three, a barrier is impenetrable, and exclusive; its character is derived by the tension generated by opposite sides pressing against the barrier, with little exchange between the opposers. Its dimension is minimum. Conversely, a seam includes the opposing adjacencies; its character is derived by the exchange between the two sides. Through this reciprocity the end result becomes unique, more than the sum of the two parts. The dimension of the seam is territorial; it is capable of and encourages habitation.

Approaching the limited nature of a geographic site requires a broader synthesis, that is, looking beyond the site as well as realizing the three elements of an integrative urbanism in architecture to the smallest detail. What follows is an attempt to reveal an approach to a given urban site, applying general principles to a specific location, with emphasis given to the tension between the social and physical demands of the site. The nature of an integrative urbanism and architecture demands that the project be examined at all sizes: from global to detail.
More specifically, the dimensions considered in this discussion are:

1. Global (regional): of hundreds of square miles
2. City scale: of square miles
3. Neighborhood scale: of millions of square feet
4. Site scale: of hundreds of thousands of square feet
5. Edge scale: of thousands of square feet
6. Building scale: of hundreds of square feet

Not covered by the scope of this study, imaginable sizes continue to become smaller:

7. Room: of tens of square feet
8. Body: of square feet
9. Hand: of tens of square inches
10. Finger: of square inches

The global concerns prompting the proposal of an ecological social and formal program have already been briefly discussed. In each of the remaining sizes covered by this study, in order for one to implement an integrative urbanism and architecture, one must address the three components discussed in part four: the political, the ecological and the formal.
City Scale: Square Miles

Decisions concerning the placement of the farm at the city size concerning the placement of the farm, are driven by the discussion of where such an intervention may be realized in a place that is most beneficial to the city. Perceiving the Southwest Corridor as a potential seam generated by development attitudes as well as physical and social demands, justifies the placement of the project.

Formally:

- the streets at the main corner of the site, Ruggles at Tremont are oriented in a way that connects the Farm with the larger water landscapes of Boston: the Charles River, and Olmsted's Fens/Emerald Necklace: Tremont is part of the river grid; Ruggles is oriented to the Fens.

- the southwest corridor extends from the Franklin Park to Copley Square; this physical link of the corridor is touted as the new Emerald necklace and should be developed with "green" in mind.

- the site is approximately half way between the largest Boston landscape in Franklin Park and the Arnold Arboretum, and one of the most densely populated neighborhoods which contains a rural reference: Haymarket Square farmers market in the North End. Conceptually, it provides the formal continuity between these two sites.
Political/Social:

- the program of the farm attempts to rejoin a community formally and socially separate from downtown Boston

- the program offers the opportunity to grant individuals the opportunity to grow food for themselves locally, and to market what they grow as subsistence income.

- under leadership of the Boston Urban Gardeners, part of whose credo is "to encourage cooperation among people of diverse ethnic, racial, and cultural background", the farm has an institutional and programmatic role in mending the southwest corridor.
Ecological:

- in the wake of the southwest corridor movement to successfully resist highway construction, the southwest corridor park is the pride of Boston. Some hope to designate the park as a model for an integrative urbanism. The farm would become a paradigm for other development projects.

- The Farm also complements existing sites along the corridor already devoted to food production, distribution, and ecological education.

- The silver lining of the loss experiences during highway construction is a clean slate on which to work. The Farm represents a stand in land reclamation for green agriculturally productive purposes.
Neighborhood Scale: millions of square feet

Defined as the local neighborhood extending north to south from the Fens to Dudley square in Roxbury, and east to west from Roxbury Community College to Northeastern University.
where the Fens doubles back on itself, it makes the closest pass to the southwest corridor. Fens can be seen from the southwest corridor. There is an excellent opportunity for the Farm as a large landscape intervention to connect with the historic Emerald necklace.

this landscape continuity would be built using the existing Ruggles and Tremont Streets, transforming them into green parkways that moves the traffic while providing an unambiguous green link to Olmsted, providing a continuity between the fens and Dudley Square.

streets long buried under highway construction are reconnected as a method for recapturing the scale of the block size in this neighborhood.

Tremont Street, heavily travelled at excessive speed along this stretch is redefined using the model of itself farther north in the south end. Building cross streets and sizing down of blocks would necessarily result in slower traffic.
Political/Social:

- Program aware of various institutions in the area that would find uses at the farm for job training for MDC workers, horticultural and landscape instruction, employment.

- the formal moves expressed above have a social component of bridging neighborhoods across three geographic zones: from the Fens, through Mission Hill to Roxbury. The program reinforces the physical intervention.

Ecological:

- the farm will provide a working environment for individuals and institutions for ecological and earth sciences, urban agriculture.

- the neighborhood becomes designated as a green zone, essentially an ecological urban model. Food producing potential is incorporated to developments not formally associated with the farm: greenhouses and roof gardens sprout from the top of Madison Park High School; new office towers grow their own vegetables for their cafes.
Site Scale: hundred of thousands of square feet

Defined as the area primarily bounded by Ruggles and Tremont Street, including the mission Hill extension public housing development to the north.

As part of an integrative urbanism, the site requires that inclusionary zoning be designated for the site as part of an attitude towards integrating various uses: housing and commercial space, industrial with office space: Institutional, commercial, residential, recreational, educational.

The Site itself becomes a designated farm area: a self-sustaining and productive environment made up of the various integrated uses.
Urban Farm Institute:

ecological, alternative energy research
fish farming
aqua-culture
self contained residential facility which comports, purifies
greywater and blackwater
geotherminal heat and cooling
water reclamation and storage
classrooms

institutional aspects:
labs, with greenhouses above
subterranean spaces for compost greenhousing.

Residential:

integration of a variety of housing types:
co-housing model
single-room occupancy
market rate apartments
transitional housing
limited equity cooperatives
all self-composting, utilizing solar energy, geothermal heating
and cooling
canning facility located in the basement of dwellings.
Commercial:

- office incubators
- market rate office tower owned and operated by the Urban Farm Institute
- street front retail businesses associated with the Farm Market at the corner: outdoor vending spaces along with interior shops for New England based flower and seed companies;
- new home for New England Flower Exchange

Educational/Industrial: The Barn

- facility for solid waste in-vessel composting, soil building for the farm
- crane for off-loading manure from weekly trains utilizing the rail potential from the outlying urban areas.
- egg farming
- MDC worker training area
- Institutional training for urban agricultural management.

The Farmlands:

- integration of various food producing arrangements:
  - individual plots/victory gardens
  - groves of fruit trees
  - greenhousing
  - roof deck farming and window boxes
Site Plan

1. Tremont Street
2. Ruggles Street
3. Mission Hill Extension Housing
4. Boston Urban Farm Institute
5. Institute Greenhouses
6. Residential
7. Commercial greenhouse and nursery
8. Speculative office tower/income property
9. Farmer's market
10. The Barn
11. Groves
12. Arbor trellis over parking
13. Garden deck over parking
14. Victory gardens
**Edge Scale: thousands of square feet**

At present Tremont Street represents the surrogate southwest expressway in terms of traffic volume and velocity: it is a vital vehicular link between the southwest suburbs and greater and downtown Boston. The swath at present is primarily an area through which to pass whether by train, automobile or by bicycle. Buried under years of neglect and ignorance are former city streets which possessed the scale of its surroundings.

The edge of Tremont street typifies the challenge inherent in building to reinforce the nature of a seam. In an urban condition, the edge is the essence of boundary: how does one build to ensure that the boundary becomes a seam and not a barrier.

As an urban boundary, the edge of Tremont street requires a defining built edge that serves different purposes. It is at once protective, orienting, definitive between public and private space. Since these adjectives also easily apply to a physical barrier, in order to build the seam at this size, the edge must also be penetrable, permeable, territorial; it must also have a habitable transverse direction for transition.
Since the conditions between Tremont Street and the farm demand different environmental standards, certain qualities of barriers are useful to defend against automobile emissions, lead and carbon monoxide. The edge must necessarily be protective and definitive, formally and ecologically–socially, it must be permeable and habitable.

Previously discussed in terms of urban form and behavior in a more general sense, the architectural assignment requires a more specific application. Building the edge of Tremont is best described using architectural elements that reinterpret an agricultural metaphor for an urban situation.

The elements of the seam at the edge size are:

- earth berm
- wall
- aeration
- trellis
- fence

these elements serve the purpose of:

- urban landscape
- retention/conservation
- movement, ventilation
- habitation
- orientation, public edge
Diagramatically, the edge seam is constructed of these five elements:

In section, the diagram appears thus:
Though this edge possesses the territorial dimension required for a definitive seam, the discretion of the pieces isolates them and simple zones are built as in the diagram. If one applies some principles of an integrative architecture, where discrete pieces exchange in as much as societies reciprocate in an integrative urbanism, the result further intensifies the boundary as a seam. It is difficult to determine where one element begins and where the next left off.
And in section
In so doing the landscape becomes part of the habitation, and the habitation(trellis) finds exchange with the landscape, the wall with habitation and the landscape with the public edge. By scrambling the distinct parts of the system, the resulting space is less stratified more integrated, more territorial and approaches the definition of the seam. This is a formal response to an integrative urbanism and architecture that has social and ecological implications.
The Corner:

Essentially the same size as the edge, the corner typifies the challenges inherent in attempting to bring together elements of building seams at all sizes.

The corner is the public face of the farm, the public gateway opening to greater Boston by its adjacency to the train station. It is the territory of transition between the public Ruggles square and train station to the northeast which is destined for mixed use development.

The corner entrance to the farm is in itself territorial, a seam between the public urban edge and the green edge wherein the farm exchanges with the city. It is the territory wherein the programmatic nature of urban farm is understood at first glance:

The entrance to the corner by use of a deep trellis essentially gives some dimension to the act of transition for the street the farm plaza; at a very small scale, the entrance is in itself a seam.

The corner is also the place wherein one understands the formal nature of an architecture that responds to the environment: roofs that collect water, panels that receive and harness the sun, forms that enclose and protect while allowing human movement through.

Corner

1. Farmer's market
2. Urban farm institute
3. Integrated residential arrangements
4. Greenhouses
5. Institute laboratories with greenhouses
6. Ruggles Station plaza
7. Business incubators over commercial
8. Flower market
9. Office tower/income property
10. Agricultural land/fruit trees
11. Water collection
12. Solar collection
13. Development by others
Building Scale hundreds of square feet

Following are the drawings of a building realized along the edge of Tremont street which also address the concerns of the corner massing and the interior courtyard. Using the elements introduced of landscape, wall, access, trellis, and fence, the building design attempts to provide the transition from the street to the interior spaces by building a habitable territory through which to move.

The elements are constructed of:

- landscape.....mother earth berms and imported topsoil
- wall...............reinforced concrete below grade for earth retention changing to concrete block where load bearing capabilities are needed; glass block interspersed
- access..........light steel stair and industrial grating system, catwalks at higher levels; structurally independent and permeable by light and air
- trellis..........exposed conventional steel frame construction, columns at 24 ft by 24 ft grid which is optionally "inhabited" or stiffened by concrete slabs which rest on the frame allowing some structural independence but spatial exchange between the parts. Disclosed frame inhabited by trees
- fence..........the public edge will be primarily nonstructural steel and masonry infill

All elements exchange to the point that the demarcation between them is no longer clear.

First Floor

1. Commercial storefronts
2. Corner flower market and
3. Cafe
4. Courtyard
5. Market stalls
6. Entry plaza to farm
7. Vertical access
8. Common spaces
Second Floor

1. Business incubators
2. Office tower
Section A

1. Farmer's market
2. Office tower
3. Business incubators
4. Commercial storefronts
5. Roof gardens
6. Courtyard
7. Parking
Cross-site section sketch: looking northeast

Section B
Building: essentially a frame which to inhabit and in which the natural world is welcome and cultivated; a permeable screen of light and space through which residents, workers, and visitors move; a transitional screen from the urban to the farm condition: from automobiles to tractors from dust and smoke to earth and verdure from litter to lettuce.
Study model of the built corner condition at Ruggles and Tremont

Tremont Street Axonometric View
7. Summary

The exploration herein has attempted to learn from observing the concurrent phenomenon of physical boundaries defining and often containing social entities. These coincidences are not merely by chance but reflect a culture's or society's desire to keep the "otherness" of unfamiliar people, racially or by class, at arm's length. An architectural response to such a boundary in Boston is only successful when the proposal exhibits the three components of an integrative urbanism: concern for formal integrity, social equity and ecological wholeness.

This study has included such a proposal in the shape of an urban farm in Boston. However successful the proposal might be in addressing the issues raised, one must realize that an urban farm is not a panacea but only one suggestion of many, and that often the boundaries and borders that exist are not as obvious as the Southwest Corridor.

Indeed, the most difficult borders to address are those which exist less in the physical sense and are locked in a vagueness characteristic of institutions. Without a physical orientation, the picture of the barrier is subject to interpretation. In local cities and internationally, the issues are often relegated to subjectivity to the point that decisions made abstractly have serious consequences for those at the receiving end of those choices.

Most barriers exist in the minds of us all for self definition, protection and exclusivity at the great expense of not exploring the seams which potentially exist: of the mind and of the heart. An integrative urbanism, or an integrative architecture, is a part of a larger consciousness that seeks equity, ecology and aesthetics.
Bibliography


Jackson, J.B. *Landscapes*. Boston, University of Massachusetts, 1970.


Shapiro, Anne Louise. *Housing the Poor of Paris, 1850-1902*. Madison, Univ. of Wisconsin.


Appendix
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<th>combination plot and pediment</th>
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<td>displaced wall by pediment</td>
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<td>Hot services wall: breaking off inside located wall no light unless wall itself is horticultural</td>
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<td>twin pediment walls</td>
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<td>green axes integrated onto boundary</td>
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FOOD CHAIN IN A SOLAR POND