

Collaborative Process and the Transformation of the Urban Environment:  
Wall, Street, and Scaffolding on Massachusetts Avenue in Boston

by

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Submitted to the Department of Architecture in Partial Fulfillment of the  
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ABSTRACT:

This thesis addresses two questions: how to develop a process of collaborative building in cities, and what kind of public places to make in cities. More generally: how can urban dwellers re-engage with urban architecture in a meaningful and vital way? In response to these questions it is proposed that architects must help to define ways that people can directly collaborate in experiments to redefine their environment.

An approach is suggested to bring the process of making together with the design of the place by designing "pieces of the process." An architectural "vocabulary" is put forward that can be used in on-site collaborations to develop alternatives and to build zones of community interaction and reconciliation of civic life. This vocabulary is made up of both buildable form and an awareness of the cultural capacities for use and meaning of architecture. It attempts to enrich the dynamic language of architecture which already exists in the social life of communities, and to address that language to the goal of enriching the life of the city.

Thesis Supervisor: Maurice Smith

Title: Professor of Architecture Emeritus



**This thesis is dedicated to the memory of Robert F. Murphy, anthropologist and teacher of questions, and Perrin Stryker, editor and friend of characters.**

**I also dedicate this thesis to Kim and Oscar, for their love and inspiration.**

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I cannot easily express in words my gratitude and admiration for Kim, who is the one who gives me courage and shares her wisdom with me. Nor can I ever thank Oscar enough for being our "loyal terrier."

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# CHAPTER I

## INTRODUCTION

### 1. PRESENT URBAN CONDITIONS AND NEEDS

#### Urban Condition: "Hostility and Reserve"

In his essay, "The Nature of the City," the sociologist Georg Simmel writes:

...self-preservation in the face of the large city demands from [the subject] a...negative behavior of a social nature. This mental attitude of metropolitans toward one another we may designate, from a formal point of view, as reserve.... As a result of this reserve we frequently do not even know by sight those who have been our neighbors for years...

He continues to describe this "reserve" in more detail:



*Figure 1*

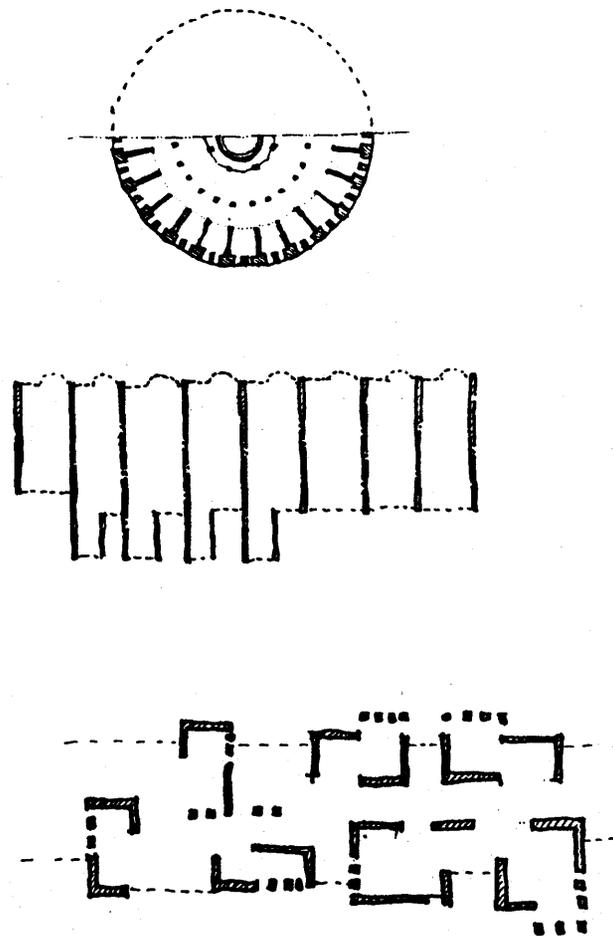


Figure 2. Top: Half-plan of Panopticon of J. Bentham. Middle: Back Bay Row houses. Bottom: Greater visual continuity and optional privacy in an open field.

...it is a slight aversion, a mutual strangeness and repulsion, which will break into hatred and fight at the moment of closer contact, however caused....

The social process of this "reserve," Simmel claims, is not what it at first glance appears to be, nor does it function in the way that it is commonly understood. In fact, Simmel claims that:

What appears in the metropolitan style of life directly as dissociation is in reality only one of its elemental forms of socialization.<sup>1</sup>

#### *Its architectural ramifications*

These observations, nearly a century old, are even more valid today. Can architecture play a role in setting the context for the alleviation of some of its worst aspects? For example, could the aversion which leads to not knowing our neighbors by sight be partially ameliorated by greater visual continuity between the pathways and domains of neighbors, while still allowing for the optional protection of a private domain?<sup>2</sup>

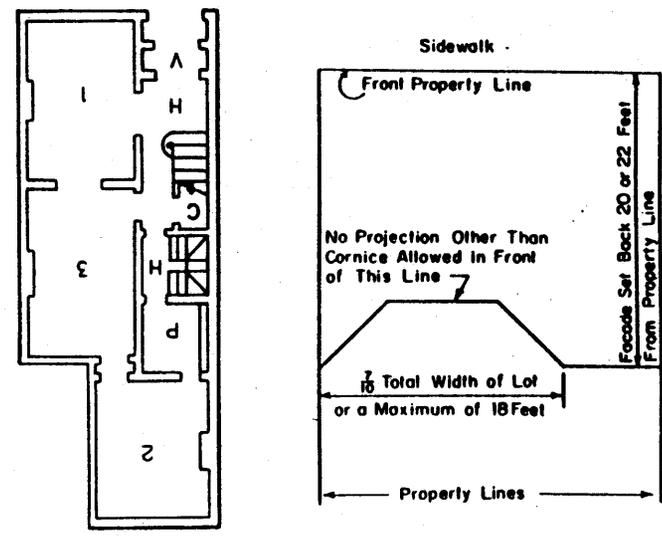
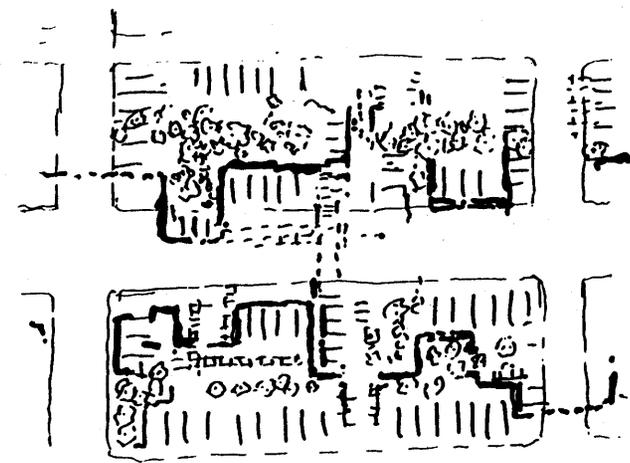
Could the extreme and threatening discomfort of urban individuals when brought into "closer contact" be partially soothed in a more variegated urban landscape? Today in large cities we face hard choices on our linear, busy sidewalks. We close on each other like fencers -- cut off on one side by deadly traffic, we look in vain to the other side, only to find residential privacies or exclusive, controlled, commercial establishments. What if there were more options for gradual coming-

together or retreat in easy stages? Greater variety and intensity of physical demarcations and displacements in the streetscape offers many more options for different types of use as well, even in the example of an arcade, which provides even more opportunities for different levels of interaction.

*How concretized in the 19th Century fabric*

And yet, referring back to Simmel's still-startling conclusion that these apparent "dissociations" are actually a basic means of socialization, it must be asked, "What is at stake when suggesting alternative urban landscapes?" Is there not the danger of disrupting a fine balance, that achieves at least a partial social harmony? Particularly in the case of a delicate and subtle urban fabric--such as that of 19th Century Boston, which achieves a vibrancy and balance at least in certain large areas such as the Back Bay, Beacon Hill, and parts of the South End--it is worth asking what "socializing capacities" could be lost in a proposed transformation.

Predating Simmel's analysis by a few decades, the architects of the Back Bay and South End established a precise architectural expression of this "mental attitude of reserve" that has allowed social life to flourish there. These city planners designed a megastructure<sup>3</sup> that employed a simple yet sophisticated set of rules for development, which established the parameters for both architectural form as well as social relations of privacy and publicness.



Top: Figure 3, potential variegated streetscape.  
Bottom: Figure 4, typical plan, and zoning for Back Bay.

### *Out of balance today*

Indeed, a flourishing social life is present in much of this architectural fabric, and yet, in other parts of it social life is frustrated, and the negative aspects of urbanity described by Simmel are so predominant that they discouragingly overshadow the positive. Moreover, there is persistent exclusion of large social and economic groups from the benefits of this partial harmony. Maybe this is wholly due to forces other than architectural, but surely, the architecture, so powerful in success, must also play a role in failure! Perhaps this delicate architectural organism does not have the in-built capacity to adapt beyond a certain point to increasing conditions (necessities?) of urban "hostility and reserve."

If architecture has social value (if it is not neutral), then it is the choice of architects who believe in having a positive ethical relationship with the communities they serve to try to make environments that are socially positive. What architecture has this capacity?

### **Hope for Reconciliation in Urban Culture**

Simmel provided a starting point for answering this most basic question. Later in the same essay, he says, "It is the function of the metropolis to provide the area for this struggle and its reconciliation."<sup>4</sup> This, he claims, is because of the unique capacity of the modern city to provide for two conditions:

1. recognition and fulfillment of one's individuality, and
2. *recognition of that of others* as well.

This capacity, he suggests, arises through increased specialization and differentiation of labor, and reduced community control of individual expression.

To these I would add a third condition: the frequency of the "liminal" or "threshold state" situation in the social experience of the modern urban individual. Liminality, as discussed by Victor Turner and a number of other social theorists, is a state wherein social roles are experienced as being in temporary suspension or transformation, experienced most directly in rite-of-passage rituals. In today's city experiences with the quality of liminality are palpable at a shockingly rapid clip. Although the actual complexity of our social relations might not be subjectively greater than in any other society, in our world of heightened social stimulation encompassing a huge "multi-cultural" spectrum, the incongruity between our expectations and norms on the one hand, and our actual interactions and often unclear roles on the other is more often apparent.<sup>5</sup>

This "liminality," I propose, if recognized and celebrated potentially breaks normative roles (and boundaries) between people so that they may act towards each other in new ways -- to take responsibility for each other. For example, people's needs for protected private space, the needs of the homeless for recognition, respect, and homes, the issues of negotiating rights to semi-private or collective spaces, all could be thought of as problems of taking responsibility for others. Indeed, if Simmel's idea has any truth and it really is the function of the city to provide this "area" for reconciliation, then architects should be encouraged to design the place where reconciliation is nurtured.



Figure 5. Commonwealth Ave., Boston.

## 2. BUILDING A ZONE OF COMMUNITY INTERACTION AND RECONCILIATION OF URBAN LIFE.

Without proposing architectural determinism, it is still possible to know that architecture has social value. It is not a neutral element of the human environment. Unfortunately, too many architects today are fond of a particularly strange evasion of responsibility to social life. Often cited by architects are examples of negative architectural environments that "failed" in social terms (the favorite being the infamous Pruitt-Igoe housing project) or examples of socially benevolent "vernacular" environments, such as hill towns or areas such as the Back Bay in Boston. But when asked point-blank if architecture can play a role in alleviating social ills these same people will vehemently point the finger at economics, politics, racism, and so forth. The implication being that the architect's job is to build buildings, not solve the world's problems.

This is an absurd evasion, and it rests on the equally absurd idea that what the architect is responsible for is the finished product of "a building." In fact, architects' designs contribute to the *overall* built environment, and perpetuate one or another building process -- with all of the clear and immediate social ramifications these processes imply. Moreover, even the artifact of a building taken alone has immediate social value, and architects are clearly well aware of this, as they always render their buildings surrounded by benevolent, happy people, as opposed to the real mix of people encountered on a typical city street.

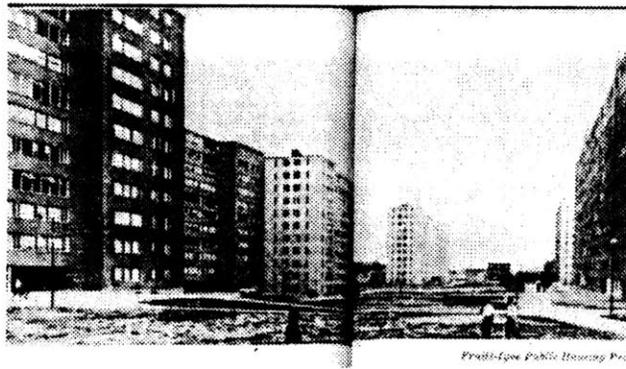


Figure 6, Pruitt-Igoe.

The social value of the built environment (even before consideration of the economic, environmental and other concerns) is rooted in the direct physical experience of buildings -- in the associations with and access to materials, light, air and other natural amenities; and in the organization of social space, public and private, the social experience of making, property relationships, and historical and cultural meanings. From the most meager efforts of a homeless squatter, to the most heroic gesticulations of multinational corporations, the building effort is a social and cultural effort, and every contribution to it directly effects social life, its problems as well as its celebrations.

### 3. POTENTIAL FOR ARCHITECTURAL RECONCILIATION WITH URBAN CULTURE

More expression by individuals in the built environment should be allowed and encouraged -- as opposed to the 20th Century modern and going further than 19th Century row-houses. Architecture in the increasingly internationalized Twenty-First Century needs methods that can cross cultural boundaries. Western architectural thinking has evolved out of the fields of Western art history, criticism, and philosophy.<sup>6</sup> It is difficult to assess the validity and relevance of these traditions cross-culturally. For just one example, our understanding of relationships between things, as between people, are culturally defined. And relationships can be made in many directions which may seem



*Figure 7, Squatter settlement, South America*



utterly unnatural to members of different cultures. The anthropologist Edmund Leach talks about this aspect of relationships and culture noting that the Western perception of the relationship between brothers is that their brotherhood binds them together, but the Kachin of Burma see it as the quality that distinguishes them from each other. Among architectural theorists Amos Rapoport is one of the only ones who has addressed this issue rigorously, following in the anthropological tradition in which he was trained.

### **The Urban Environment as a Public Forum**

The following are goals for making the idea of community manifest directly in the physical space of the community:

Encourage the public forum of the environment.

Provide greater public access to expressive work through the development of communal semi-privacies.

Protect the rights of individuals through public community negotiating processes.

Provide forums for demonstrations and experimentation in the public "eye".

Support and develop financing for temporary interventions that challenge norms and encourage participation.

Heighten awareness through public actions.

Relinquish the traditional "responsibility" of Professionalism.

*Figure 8, Demonstration Information Pavillion, Park Square, Boston, 1974.*

**Proposition: A Civic Dialogue.**

A civic dialogue is the move beyond simple recognition of others in one's community to the actual engagement with and taking responsibility for strangers. The idea of engaging a cultural dialogue in architecture that is relevant in today's culturally shifting context is explored in a form and process agenda for Massachusetts Ave. in Boston, an important urban street that connects four diverse neighborhoods. Currently this street is undervalued as a place to be, it has a number of problems typical of large, busy streets in in-between areas of cities. The form and process agenda presented here is set up initially in two distinct categories, reflecting the normal approach to design and program planning as separate but related endeavors. The goal, however, is to integrate the two, which is carried out in the Fourth Chapter.

### Intentions of Form and Process Agendas:

#### *Make the Zone of the Street More Public than it is at Present*

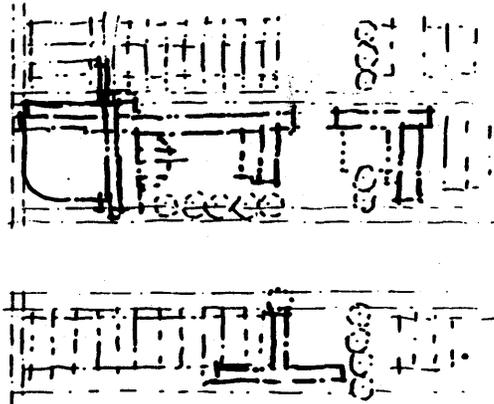
- Increase the urban continuity.
- Widen the recognizable zone of the street.
- Intensify the public quality.

#### *Build the Street into a Recognizable Zone of Exchange.*

- Make a liminal zone.
- Define a boundary zone.
- Build an inhabitable wall.

#### *Make the Street into the Site for Experimental Process.*

- Define a territory for community rituals.
- Establish a place for collaborative action.
- Maintain a site in transformation.



### Form Agenda:

#### *1. Build public space:*

The following attributes or qualities are useful:

- Reciprocity*
- Exchange*
- Openness*
- Incompletion*

*Figure 9, Potential Zone of Exchange on urban street.*

*"Public Figures"* (buildings that exhibit public qualities)

These qualities are developed in a relationship with other qualities that tend to build private space:

*Closure*

*Completion*

*Discontinuity*

2. *Build a boundary zone:*

Demarcate Edges.

Establish Thresholds.

Build Gateways.

Make an Inhabitable Boundary.

3. *Set the context for the process:*

Build Examples.

Define Limits of the Public Zone.

Solve Problems of Rights and Responsibilities (e.g.. Privacy).

Build Supports.

Establish Artifacts of Tradition (Precedents).

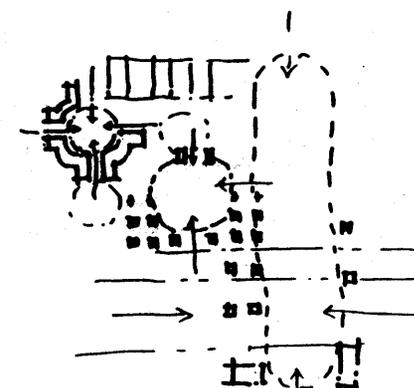
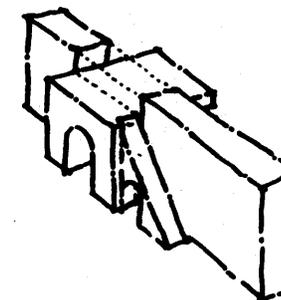
Process Agenda:

1. *Establish public territory:*

through public action across boundaries;

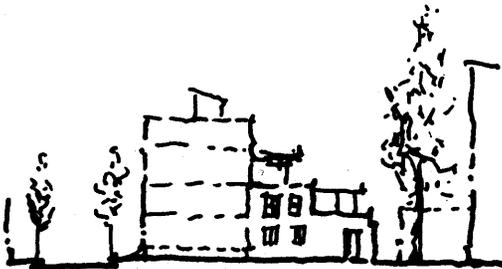
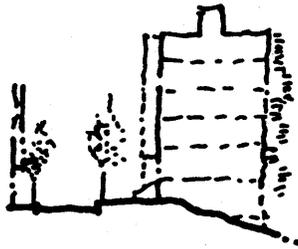
in public space;

making claims for the public.



Top: Figure 10, Inhabitable Boundary.

Bottom: Figure 11, Zone of Exchange, interaction across public territory at urban crossing.



## 2. *Incorporate boundaries.*

Recognize and raise awareness of them.

Use and inhabit them.

Change and intensify the changeability of them.

## 3. *Use the site of the street as the context.*

Perpetuate the process as public process.

Involve strangers.

Instigate the process.

Keep the process accessible to new people.

Use a major amenity--the street--as an in-built incentive to keep the process alive.

## 4. INTEGRATION OF THESE FORM AND PROCESS AGENDAS

### Need an appropriate, Flexible System or Language<sup>7</sup>

An understanding of the structure of a community-building method is needed, as opposed to a building system. The goal is to attain the richness found in "vernacular" architecture, adapted for the modern day, and lacking in much of the current built environment. The following set

Figure 12, Beacon Hill, relationships to street and alley.

of principles or rules was abstracted as a retrospective method from observation of Beacon Hill in Boston, and incorporates the following:

First, variable and optional "party-walls" or other primary subdivisions, with potential for gaps to allow service, pedestrian access through buildings, additional light and air, or the definition of public space.

Second, a variable secondary inhabitation system within the first system -- the floors, walls, and exterior constructions such as patios.

Third, the enclosure should be variable, incorporating extensions out from the secondary system for example.

Fourth, there should be an additional building system for the gaps in the primary system to be occupied if desired by the adjacent parties, similar to the secondary system but less integral to the buildings.

Fifth, roofing decisions should be local, as needed.

Sixth, the dimensions of the public/private edges should be variable.

### Relations Between Experiences

The question with all this variability is what is the acceptable range within which the method is still a method, within which there will be an outcome that is recognizable as being of the same animal, or morphology. How can one make something versatile and capable of sustaining growth without resulting in generic neutrality on the one hand or unrelated decisions on the other.

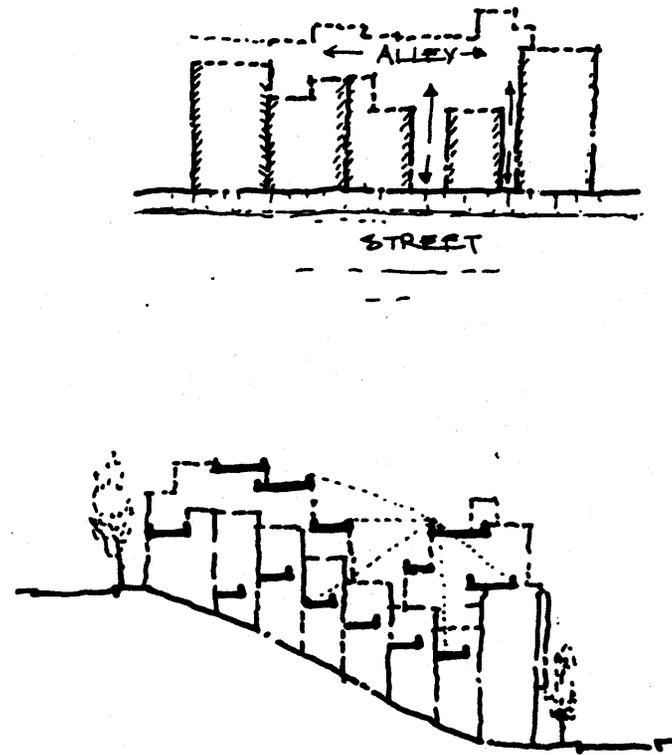


Figure 13, top: slack in party-wall system;  
bottom: relationship of terraces and balconies.

In the anthropologist E.E. Evans-Pritchard's 1940 essay, "Time is not a Continuum," he describes the understanding of time among the East African Nuer:

...to them time is a relation between activities...Events follow a logical order, but they are not controlled by an abstract system, their being no autonomous points of reference to which activities have to conform with precision.<sup>8</sup>

Even in our age of precision machines and regimentation of time, the building "method" may likewise be given shape by the structure of relationships between the qualities of experience, not in the systematic relationships of a constructional system. Such a method would establish a range of spatial and formal relationships. These would in turn be met by a range of building systems that could be deployed to establish those relationships.

To choose among *this* range, other criteria would apply. First would be the criteria of intensifying the relationship desired. Second would be the development of other types of associations, with material qualities, with potential uses, with various meanings, with a participatory process of growth and adaptation, with symbol or tradition, with the metaphysical or poetic, with the "genius" of the designer. Third would be criteria of cost or effectiveness.

There are different kinds of relationships of experience of architecture. Many are cultural and shifting, for example the relationship of a vegetable market to a corner. Some are architectural in

the narrower sense, as in the relationship of a gateway to a fortified wall, or a fountain to a courtyard, or a service alley to a rear court. This is related to the distinction between use and use-capacity, which will be addressed at length in Chapter Three.

So, from the idea of form and the idea of process must come a further idea of a combined form-process. This form-process must be rooted in the relationships of the individual and the environment, in their experience of it and participation in its development.

The built culture of cities already provides strong examples in these directions, due to its complexity and the spontaneity of individual behavior that survives within a big system. Cities are full of temporary accidents, contributions to the architectural environment which are momentary testaments to the creativity of individuals despite all the attempted repression. These are challenges to take responsibility for others, for their creativity and their rights. It is this aspect of the life of cities that architects should embrace rather than the controlling aspects of the institutional mind-set they tend to favor.



Figure 14, Mexico City.

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<sup>1</sup> Sennet, p. 53.

<sup>2</sup> See Michel Foucault's well-known study of the Panopticon in *Discipline and Punish: The Birth of the Prison* for a discussion of the power of sight lines in social organization. Also see Yolanda and Robert Murphy's *Women of the Forest*, the sections dealing with the organization and design of the men's and women's houses.

<sup>3</sup> According to the definition of megastructures in Fumihiko Maki and Masato Ohtaka, "Some Thoughts on Collective Form," in *Structure in Art and Science*, ed by Gyorgy Kepes (1965). The authors describe a megastructure (which they

---

questionably claim is a new form of structure) as "...a large frame in which all the functions of a city or part of a city are housed." -- p. 118.

<sup>4</sup> Sennet, p. 60.

<sup>5</sup> Murphy, Dialectics.

<sup>6</sup> Architects have also brought to the discussion ideas from other related fields, such as art history, art criticism, or philosophy. Sometimes, however, the result of this polyglot discussion is vague, generalized, and mixed up with the personal reflections of the writer. Sometimes what results is an analysis of architecture that tries to relate it to a kind of generalized theory of humanity that, because it comes from bits and pieces of many different fields, suffers from a lack of critical depth. Olivier Marc, for example, in a rambling essay that borrows from child psychology, to personal travel recollections, to a myriad collection of ethnographic images from all over the world, tries to explain architecture's relationship to culture in terms of what he defines as the primal symbolic geometrical forms: circle, triangle, square, etc. It is solipsistic because of the personal way in which these many different examples and personal reflections have been interpreted ("...the meaning of a triangle, rising upward, is easily understood...") -- Marc, Olivier, *Psychology of the House* (Thames and Hudson), p. 61.

This kind of writing, while sometimes valuable as artistic reflection in adding another perspective, must be recognized as distinct from the empirical or even the speculative historical work that is available. It should be incorporated within a methodological framework into an overall understanding, as something distinct.

<sup>7</sup> Shuh-hwa Shih and I, borrowing heavily from the teaching of Maurice Smith, developed this abstraction.

<sup>8</sup> Douglass, p. 75-77.

## CHAPTER 2

# ARCHITECTURE WITHIN A CULTURAL FRAMEWORK

### 1. DEFINITIONS

#### *Architecture*

Architecture simply is that physical part of intentional human culture that forms the inhabitable environment. Examples include buildings, parks, ceremonial or temporary constructions, and arrangements of material such as furniture or decoration. Some examples outside of this definition would be paintings, accidental effects of pollution on the landscape, or automobile wrecks.

### *Social organization*

Social organizations are the patterns of interaction between people-- purposeful, formal, and commonly understood, as well as unintentional, informal, and commonly overlooked. All societies have a variety of systems of mutual understanding and interaction between individuals, language being the most obvious and elemental example. But, in addition, all social systems evolve as they interact with outside social systems, or internal micro-systems. These interactions range from those between individuals within a system who always have different interpretations of its particulars, to interactions of entire societies with foreign societies that appear or are presented to be completely different.

As these evolutionary interactions and changes happen both at the level of the commonly understood norms as well as at the level of the overlooked patterns it is easy to see that the idea of discrete systems of social organization contains an internal contradiction. The reality is dynamic and fluid. And yet abstractions of systems should not be disregarded. In fact, it is this internal contradiction itself that is the clue to the significance of social organization systems and to finding a design process rooted in cultural perspective.

### *Culture*

Culture does not mean tradition, although tradition is a part of culture. Even in modern society (in which it could be argued that architectural form is only limited by the imagination of the architect) individual imagination springs from, is modulated by, and holds itself

up against culture. And individual artistic expression is distinct from the artistic expression of a society. The relation to tradition may have changed, but the relationship to culture has not: Culture forms the "telling" of tradition, it always provides limits on what is acceptable in individual expression, framing that expression within a context that is understandable by others in society. Culture is no longer seen as following an evolutionary tree of progress, in which other cultures either die out or become acculturated into the dominant culture. Nor is culture seen as independently self-perpetuating systems of myth and ritual that function to maintain social equilibrium systems. Rather, culture is seen as many threads interweaving into a time-fabric of history, the pattern of which grows unpredictably.

### *Screens and "Culture Shock"*

It is an integral notion in an understanding of culture as a set of screens that each of us carry around with us (in tandem with our personal psychological set) to filter out from the mass of confusing information with which the world barrages us a picture of an apprehensible world that makes sense, in which we can act with some sense of surety. These screens are culture-specific, and so when one moves between cultures, where behavior and language follow different rules, one is essentially left without properly functioning screens. As Murphy describes it:

...the essence of what they call 'culture shock' may be that they are seeing behavior with a clarity, objectivity, and completeness that they were never able to bring to bear upon their own

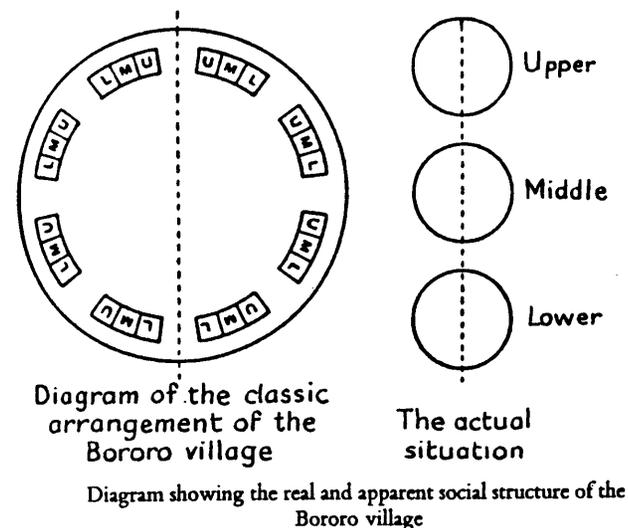


Figure 15.

society and that passes after a few weeks of residence in the society under study.<sup>1</sup>

Claude Levi-Strauss describes the experience of settling in to the village of the Bororo Indians of the Amazon Basin in this way: "...I did not so much take things in a allow myself to be impregnated by them."<sup>2</sup> Anyone who has ever travelled to a foreign culture may have also experienced this feeling.

### *Norms and Actions*

This perception of the ill fit between norms and actions became clear as anthropological data improved to reveal contradictions between norm and action: "...it became apparent that the formal, conscious models of society held by its members provided far less than a complete picture of its workings."<sup>3</sup>

### *Structures: images of order*

But somewhat less chaotic than the merciless flow of stimuli called life are the ways people impose a sense of order on the unpredictable world with cultural systems of controlled behavior and belief. Learning the language is the anthropologists first way into this system in a new culture. People try to perceive and understand an essentially chaotic world as a system or organism. In other words there may be a morphology of culture that is easier to understand than the questionable morphology of social life. This image of order is constantly being re-created and reinforced in negotiating social life.

Humans need images of order, of relationships that they can understand, both for psychic well-being, and to make possible the flow of goods and communication in daily life. But these images or norms are constantly shifting, through time and situations. (In the linguist Noam Chomsky's way of explaining this, creative intelligence is infinitely variable and unpredictable, but appropriate to situations.<sup>4</sup>) It is the constant fabrication and re-fabrication of these images that underlies social life, and perpetuates it, and consequently underlies the making and using of architecture as well.<sup>5</sup>

Architecture reflects, in physical form, this process of social life, of establishing images of order. It sets down these ordering systems literally in concrete. Because of this, although its meaning changes with use and reinterpretation, it appears relatively strong in its power to resist structural change. Some architecture is more easily adaptable than others to different uses and interpretations, however, due to the capacities inherent in its form.

## 2. ARCHITECTURE AND CULTURE

There are a number of ways to look at the relationship of architecture and culture. The first is an examination of the relationship of a society's architecture to universal aspects of social structure, for example: the structure of social relations, religion, economy and ecology, myth and ritual, norm vs. action.

The second is a historical perspective, examining both new and continuous influences in the society, trying to locate these influences in architecture. There should be, in this regard, a greater recognition of the difference between culture and tradition. Even in societies with conservative traditions new forms of culture emerge. Just one example from a Turkish town gives a sense of this commonplace:

A tide of aspirations, swelling beyond the consumption limits imposed by the local economy, has created...a "Culture of Discontent," characterized by manifest dissatisfaction with locally available income and consumption opportunities and a pressing desire to abandon Susuluk and even Turkey in pursuit of a "better life." <sup>6</sup>

Continuity -- the evolving relationships of formal structures of thought or action and new elements or ideas -- is variable. The persistence of traditional forms by themselves should not be taken as an indication of cultural continuity. <sup>7</sup>

The third important aspect of the relationship of architecture and culture is the issue of efficacy and architecture. What does architecture mean to individuals in their day-to-day life? To what degree do individuals feel active in their culture and architecture, alienated or involved? What sense of vitality is there for the individual in the architecture, how do people see themselves in relation to its various pieces?

The main focus of all of these approaches is on the arrangement of the material environment by people and the relationships of people to

their environments. These relationships reflect more than physical necessity, they serve cultural functions. Architecture is an ordering of materials that creates both an image of order, a symbolic, cultural order, and a physical order. It is one of the most direct ways people construct systems to make sense out of their world in both day-to-day experience and symbol. Architecture makes patterns fixed in space and through time.

### Architecture and Social Life

These patterns are not only material and symbolic, but also act as organizational systems for social life (buildings, paths, markets, etc.). Social patterns are built through material patterns, and cultural meaning is found in the designs of objects. E.E. Evans-Pritchard, the British anthropologist, wrote in the 1940's about the symbolic and social meanings of objects:

...material culture may be regarded as part of social relations, for material objects are chains along which social relationships run, and the more simple is a material culture the more numerous are the relationships expressed through it...The simple family is attached to the hut, the household to the byre, the joint family to the hamlet, the village community to its ridge, and village communities are linked together by paths...A single small artifact may be a nexus between persons, e.g. a spear which passes from father to son by gift or inheritance is a symbol of their relationship and one of the bonds by which it is maintained. Thus people not only create their material culture and attach themselves to it,

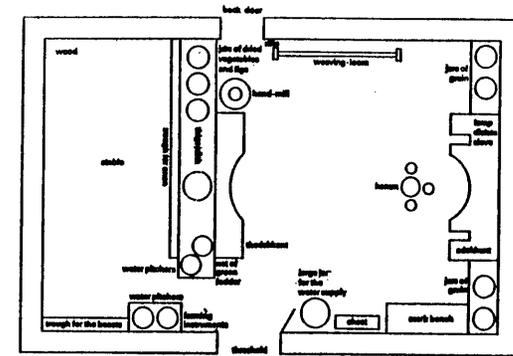


Figure 1 Plan of the house

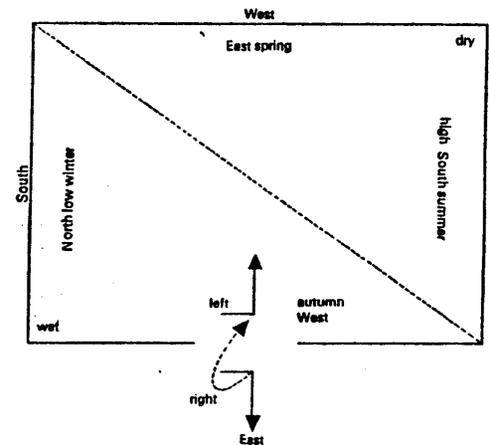
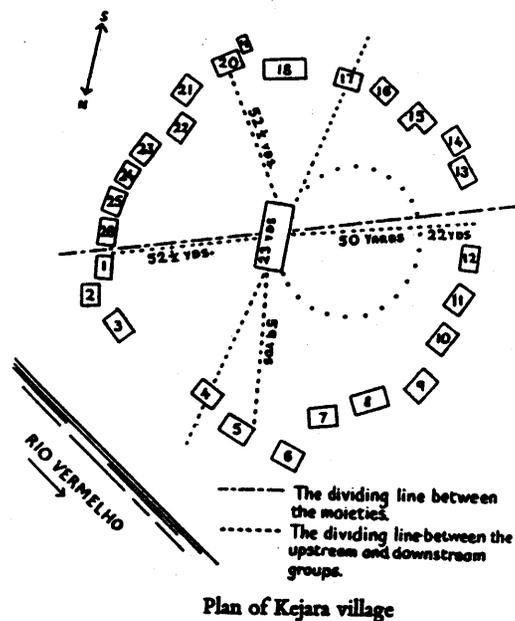


Figure 2 The double space orientation of the house (the right-angle arrows indicate the person's position)

Figure 16, diagrams of Berber house organization and symbolic structure.



but also build up their relationships through it and see them in terms of it.<sup>8</sup>

The social significance of material culture is for the most part fully internalized in the day-to-day life of society. Levi-Strauss describes the hours and hours of the day during which Amazonian people simply paint themselves, or make jewelry and other adornments. He even described the houses of the Bororo as:

...an object of personal adornment on a mammoth scale, and those who built it had been clever enough to preserve something of the spontaneity of natural growth. Leafage and foliage were combined, in short, with the exactions of a carefully planned lay-out.<sup>9</sup>

Amos Rapoport makes the point that the extreme situations found in primitive and pre-industrial societies allow us to "examine the influence of different variables on the creation of form more clearly than we could in the contemporary situation or in the grand design tradition."<sup>10</sup> For example, the expression of the relationship of the Nuer to their cattle in the elaborate and technically advanced cattle byres that they build for them is instructive in telling us about their culture, when contrasted to the simple shelters they build for themselves.

In one of the most famous of anthropological examples of the relationship between a physical (architectural) system built on the ground, and a social system built in the mind, Levi-Strauss presents a diagram of a Bororo Village.

Figure 17. diagram of Bororo village.

He shows the organization of the village in kinship terms, along moiety, clan, and family lines. It is not, according to Levi-Strauss, primarily interesting as a functional response to the environment. Rather, he describes the organization as following a set of dualistic oppositions, his universal human system of the unconscious. He understands the architecture as a facet of culture that gives insight on the organizational principles of the "savage mind" -- the mental structure of the culture as opposed to, or as a separate system from, the social structure.<sup>11</sup>

Levi-Strauss, in his writing on the Bororo people of the Amazon River Basin, focussed on the continuities in the structural relationships of the villages in their entirety, noting that, "The lay-out and the dimensions of the huts were as they had always been, but their architecture had already yielded to neo-Brazilian influences."<sup>12</sup> He continues on this theme later in the book:

So vital to the social and religious life of the tribe is this circular lay-out that the Salesian missionaries soon realized that the surest way of converting the Bororo was to make them abandon their village and move into one in which the huts were laid out in parallel rows. They would then be, in every sense, dis-oriented.<sup>13</sup>

Again Levi-Strauss sees the set of relationships as crucial. Alienation here is not only a nebulous existential crisis, but an extremely immediate and practical disorientation, both social and connected with daily physical action and orientation in architectural-environmental space.

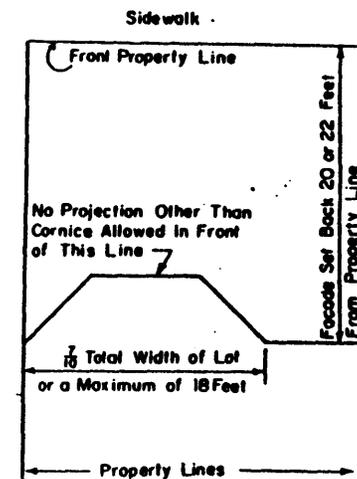


Figure 18, diagram of Back Bay zoning, relationship of public and private.

These relationships do not reflect equilibrium of social norm and organization, but rather reflect the human mind seeking to find an image of equilibrium, and impose that equilibrium image as much as possible. In fact the "underlying" organizational order of the village makes sense out of an idealized kinship system with preferential marriage rules that can't always work out in the actual material and social life of a small village. Levi-Strauss finds in these societies underlying mental systems expressed and reinforced in the daily activities that take place in the spatial organization, that exist at variance with the idealized kinship system in the minds of the people. In anthropologist Robert Murphy's words, "These are operating in latent and sub-institutional form but they explain the workings of the society as the moiety model cannot."<sup>14</sup> As Murphy notes, "...real structures are held together by their inconsistencies."<sup>15</sup>

#### **Architecture: at the crossing**

Architecture very clearly partakes of both norm and activity: it is caught "betwixt and between" normative understandings and expression and day to day use and the adaptations and modifications that occur as a result of the dynamics of life. The normative understandings include ideal organizations of spatial relationships, and of social ones, and aesthetic or artistic expressions -- Rapoport calls this aspect of architecture the "physical embodiment of an ideal environment."<sup>16</sup> The realm of activity includes all of the myriad and unpredictable vagaries of human existence: breaches of manners, rituals, expressions of

cynicism, eating, sleeping, love affairs, murders, and so on, that go on in human-built environments. To quote Yolanda and Robert Murphy, "...pragmatic life...is not lived in rigid accordance with the guidelines of the culture but, rather, uses the culture as a backdrop and sometimes as a counterfoil."<sup>17</sup>

Murphy talks about the disjuncture between norms and action, "the broken and inverted nature of cultural reality," in his book, The Dialectics of Social Life. As a way to understand it he proposes,:

...a critical [ethnographic] empiricism that takes account of the faulty empiricism of the people we study. It must examine the interconnectedness of image and activity, without ever thinking that they are the same. <sup>18</sup>

Patterns of architecture and patterns of its use over time are related and change each other. The dialectic of norm and action becomes visible in architecture. For example, new typologies emerge, old buildings are destroyed, and some old buildings remain with uses and meanings modified to varying degrees.

### Rapoport

Architecture is a facet of culture. Although it is a creation of individual or group imagination, and although it is a material response to basic human needs and environmental or economic conditions, these forces are mediated by a cultural system.

How can architects understand the way this process works? Rapoport, in his book, House Form and Culture, has argued that the

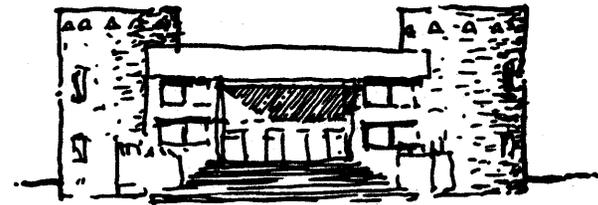
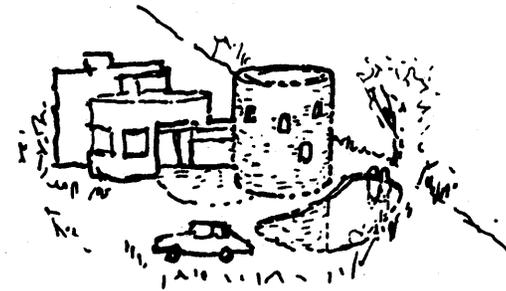


Figure 19, contemporary Spain, house and motel.

tremendous variety of architectural forms it is not explainable as a response to environmental, material, or technological constraints, or as simply a product of religious or other traditions. He argues for the primacy of cultural factors in constraining and directing the form of architecture, within basic material and economic limiting conditions. That is, when material choices exist, as they do within even the most limited context, he finds that cultural factors determine to a large extent which choices are made about formal articulation.<sup>19</sup>

Rapoport notes many differences and variations in architecture even in very similar material or religious environments. He illustrates how forms are at times anti-opportunistic in material terms. He demonstrates how the various challenges of material economy, environment, and technology, are met, or ignored, through a process mediated by cultural constraints.

### *Complexity and Contradiction*

Rapoport emphasizes the "varied and often contradictory and conflicting impulses," rather than more easily modelled cause and effect relationships. He encourages an exploration of the problem "so as to preserve the sense of the contradictions and complexities of the relations among dwellings, settlements, culture, and the continuity of [history]."<sup>20</sup>

Rapoport proposes to examine, "the way in which people organize and use dwelling space," and to set up a "conceptual framework for looking at the great variety of house types and forms and the forces that affect them."<sup>21</sup> While he does not deny that there are environmental

limitations and situations that encourage certain general types of response, he makes the point that, "...it is easy to recognize a house or a city for its culture or subculture."<sup>22</sup> He continues:

...because physical criticality [of technical demands on house form] is low, socio-cultural factors can operate; because they can operate, purely physical forces cannot determine form. <sup>23</sup>

### *Communication*

Rapoport proposes a "non-verbal communication approach" to understanding meaning in the built environment. The question he drives at is what is being communicated by the architecture, and how is it understood.

Human behavior in public places is situationally appropriate yet infinitely diverse and changing. Expectations depend in part on environmental cues, as in non-verbal communication (Rapoport), but these are frequently misunderstood or interpreted differently by different individuals in the same way that body language is, for example..

### *Taboos*

Rapoport also emphasizes that, "It is often what a culture makes impossible by prohibiting it either explicitly or implicitly, rather than what it makes inevitable, which is significant."<sup>24</sup> The emphasis on the power of taboos in structuring culture was brought to a high point by Claude Levi-Strauss with his claim that the incest taboo, by making wide societal exchange of people necessary, is at the very bedrock of

human social organization, defining the "atom of kinship." It is possible to see examples of prohibitions and taboos of kinship systems expressed in architecture in the spatial organization of villages by moiety and clan.

It is may also be possible to see taboos working directly in the world of Western architecture today, when a building is criticized for not "fitting in" or being otherwise offensive to the social order, or when someone uses the vague but common criticism of a new building that, "It doesn't work," or "It's not architecture." Christopher Alexander talks about the power of this kind of taboo in stylistic trends in architecture. He claims they reflect deep-seated societal fears of certain symbols. The example he gives is a current taboo against the pitched roof, commonplace throughout architectural history.<sup>25</sup>

In another example, Daniel L. Schodeck, in his widely-used Structures textbook, makes the following point:

It is interesting to note that our perceptions of what constitutes an acceptable level of both visual sag and floor bounciness are probably derived from our cultural conditioning in accepting prior experiences as a measure of correctness. These experiences are in turn based largely on an antiquated plaster-cracking criterion.<sup>26</sup>

In the urban situation people imagine their possible contributions to the form of the environment to some extent within the context of taboos, both personal and societal. Some of these are expressed in various bylaws and agreements between landlords and tenants, for example the

rule against painting apartments in colors, or a rule against clotheslines in certain upscale communities.

### *Cultural Fit?*

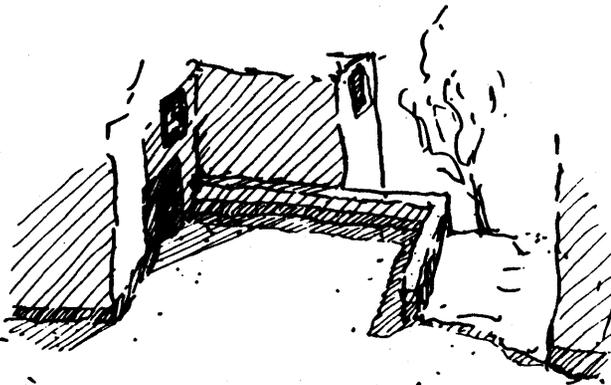
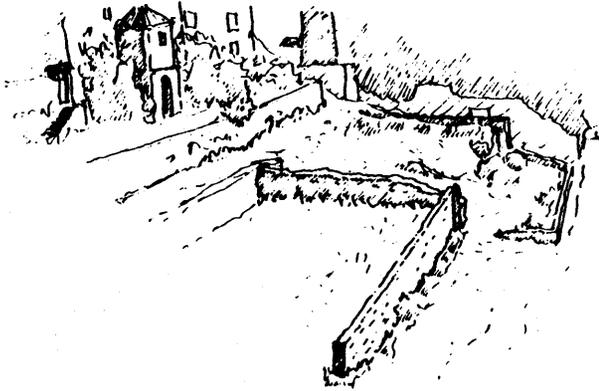
Rapoport objects to the lack of "fit" between the work of architects, who represent one subculture, and the users of their work, who represent another subculture that the architect fails to understand. He relies, however, very heavily on what he calls a "non-verbal communication approach" to explain what forms actually come about, and does not deeply investigate the actual physical morphology or structure of houses or cities.

### **Conclusion: How to Deal Directly with Form**

All these anthropological theories imply a way of interpreting form diagrammatically vis-a-vis particular and unique cultural patterns. They deal with architecture in terms of cultural meaning, for example in the distinction between Men's and Women's houses. And they focus on the specific cultural understandings of form rather than the architectural.

### *Human Ecology*

In his introductory essay in *On Streets*, Stan Anderson outlines a line of inquiry which he calls Human Ecology, useful for studying architecture. It is the study of human interaction with the environment, both natural and culturally constructed. Architects are generally trained in the following areas: design, history, building systems and methods, and technical innovation. Additionally, they learn about spatial and



*Figure 20, built reciprocal public-private use territory, Ronda, Spain.*

formal qualities and relationships, such as open/closed, light/dark, public/private, continuities/discontinuities, symmetry/asymmetry, and study human interaction with the built environment. The last two address the physical experience of the built environment.

The idea of form as having universal significations such as edge, territory, or procession, is controversial -- all of these are culturally defined to some extent. But the universal language of form is on the level of the sounds of words, and the relationships between them, as one aspect of the meaning of the words. Different but related patterns exist in the material and in the symbolic or spiritual realms.

Material organizations lend themselves to certain capacities for use or interpretation by cultures, which also may follow patterns of organization and structure, as discussed above. It is in this respect, thinking of the independence of the different kinds of organization -- material or environmental and cultural -- that Levi-Strauss made the claim that totemic animals or plants are chosen not because they are "good to eat," as previously assumed, but because they are "good to think." The issue of these use capacities and signification capacities of architecture in particular, and the funny position of architecture as an environmental condition that is culturally created, is explored in the next section in detail.

### 3. USE-CAPACITIES AS A MEASURE OF ARCHITECTURE IN SOCIETY

Capacities for use are the physically possible or encouraged uses of architecture. For example, a low and small garden wall has the capacity to be used as a seat, and in day-to-day life will be used as such. If that garden wall is in public space, in the shade, the probability of use is normally increased. Whether or not a given use is frequent or infrequent, acknowledged or unacknowledged, depends on many factors, not least of which is the presence or absence of social taboos. It has also been pointed out that the social meaning of form in terms of use is not restricted to what is physically possible in our experience. That is, a twenty-foot-high, ten-foot wide wall has the capacity to be used as a seat by monsters in a society that believes in monsters.<sup>27</sup>

However, use-capacities that present an individual with opportunities for their own personal, bodily use, or for making a direct physical impact on the environment--shaping it to one's needs and according to one's own creativity--may support an appreciation of common humanity. This recognition comes with the physical nature of experience at an individual scale. It comes with experiences of elemental aspects of the environment not too much mediated by culture--such as light, air, and the physical nature of materials. These things may lead in general to an appreciation of one's own humanness. Reflexively, they may encourage appreciation of the humanness of

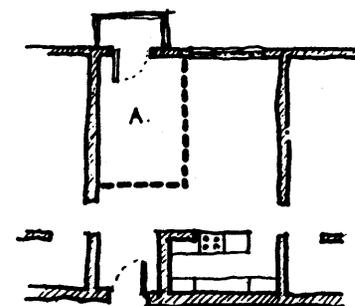


Figure 21, Top: built semi-reciprocal public-private use territory. Bottom: non-built programmatic designation.

others, especially if one sees another person also experiencing the environment in this way or leaving their mark upon it.

### **Case Study #1 - Methods of Inquiry - Studying Use-Capacities in Turfan, China**

Thomas Chastain and Renee Chow did a short study of house form in Turfan, a town in Western China. It is useful because they did not set out with a specific methodology in mind for the project. In fact, the project itself came about by accident. They had gone to Turfan to study an archaeological site nearby, with the help and guidance of a Chinese authority on the subject. However, when they arrived they found that the site had not been excavated and it was impossible to study the architecture. More to the point, their Chinese counterpart never materialized.

#### *Method and Subject of Study*

They found themselves in Turfan, having done no background research, unfamiliar with the language, and with no project to do and six weeks to do it in. So they set about to do a project that interests them, was available and accessible, and was something that they felt they could achieve in the time allotted and without special preparation, that of architecturally documenting in as complete a way as they could, the house forms of Turfan.<sup>28</sup>

(In any case, even if they had set out on a trip to study Turfan house form and culture, the background data they would have been able to gather would have been meager. China did not allow Westerners to

study this area for many years, what little information there is, ethnographical or historical, is contained in bits and snatches in much broader are studies done from the controlled vantage point of the Soviet authorities, or from pre-revolutionary histories, or would have to be extrapolated from the neighboring, similar regions of central Asia that have been studied in greater depth.)

Turfan is an apparently traditional town in Western China, in the Xinjiang Autonomous Region. It is an oasis town, situated on the edge of the Taklaman Desert sharing much in the way of technology for irrigation, basic architectural and social forms and culture with the many Islamic oasis towns of Central Asia. These towns are characterized by a number of architectural elements. One is streets continuously lined with high-walled houses with courtyards. In Turfan, the large street door opens directly onto the courtyard, a feature that will be discussed later. Another characteristic element is an irrigation system that acts as an organizing spatial element in the townscape. In the case of Turfan this is a network of channels that run along the sides of the streets, lined on both sides with poplar trees, and filled each day to carry water through the town and to the fields on the outskirts.

It is also a historically significant town, one of the important stops along the ancient Silk Road trade route that traverses China and Central Asia, and at certain times in history having been the seat of the rulers of various small empires that rose and fell in this region throughout the last fifteen hundred years. The people of Turfan are Uighurs, an ethnic group the history of which is cloudy at best. There have been people by the name of Uighur in this area for centuries, but it is not clear whether

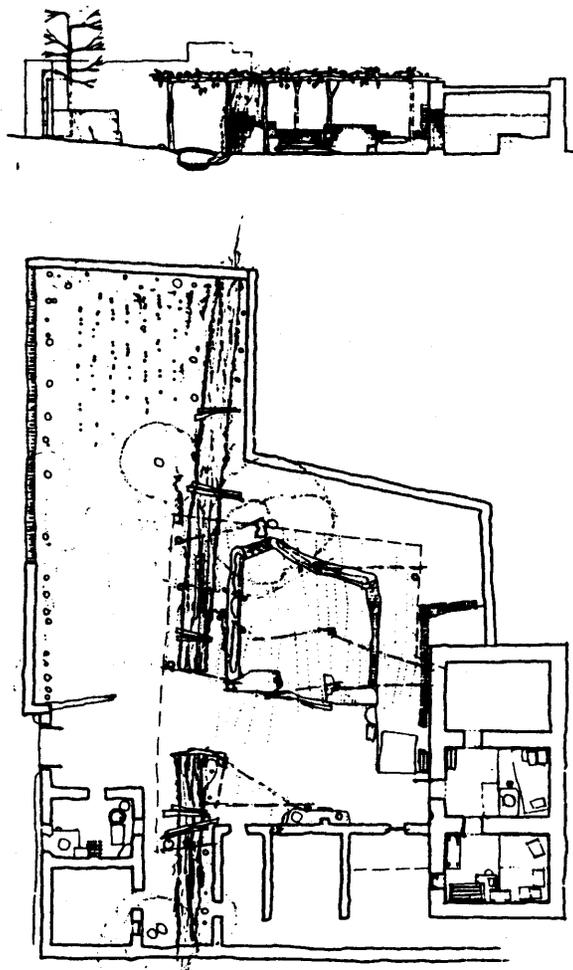


Figure 22, Turfan house.

or not the current Uighurs have a historical connection to those of two-hundred years ago, or simply a geographic one. At any rate there are some four million of them in Western China now, and they are part of the larger Chinese Muslim population in the area. They speak their own language, which is also related to the turkic language groups in the area.<sup>29</sup> Potentially, a greater exploration of the history and derivation of the people of Turfan could prove fruitful in understanding the architectural form. What is the relationship of the people of Turfan to the other Uighurs and other Muslim populations nearby, and how is it expressed in the architecture? What about the relationship with the Chinese and the Communist revolution?

#### *Architectural issues*

The methodology that they used was that which they had been trained to use most rigorously as architects, that of drawing plans, sections; and elevations and dimensional relationships, as well as the materials and construction of the buildings.

The dimensional relationships are potentially especially important in understanding the relationships between the form of the architecture and the life of the culture. As Levi-Strauss emphasizes in his discussion of the Bororo, the spatial relationships of the layout and dimensions are most significant in organizing the social space.

#### *Narrative Meaning*

One interesting detail in the Chastain-Chow study was the explanation for the dimensions of one of the courtyards that they

documented. The explanation was given by one of the inhabitants of the house and jotted down in one of the architect's notebooks. The resident explained that the courtyard had originally been much larger, but had been subdivided as the children reached adulthood, accounting for its current shape.

This story, while quite-unremarkable as a story and even as architectural history, could be a starting point for understanding something about the relationship of the dimensions of the architectural space and the social life, or kinship system of the town. However, because they wanted to limit the scope of their work to something they felt they could do justice to, this history was not included in the final article.

### *Use*

They also chose to look at the issue of use to some degree, by including all furniture and material artifacts in their drawings as well as documenting to a more limited degree the uses to which various spaces were put and by whom. The emphasis was put where the training and understanding of these architects was greatest, and tapered off as their training was less.

As Tom Chastain put it, "there is a kind of intelligence in these drawing techniques [detailed plans and sections] that we had learned to use as architects, that could be brought to bear on the problem."<sup>30</sup> The methodology that they arrived at by default was simply the best way they knew how to tackle a complex issue in a short time. And what it is

particularly good for is finding the material use-capacities. Chastain and Chow provided much data from which things can be extracted.

(This method of drawing is certainly the one agreed upon and common methodology that architects already use to understand architecture. Conventions of architectural drawing involve implicit cultural understandings as well. There is a shared culture that is taken for granted in this method, and it, too, needs to be explored. The question is the same as that faced by anthropologists in recent decades about what is and is not seen when looking at another culture.)

But there is also an anthropology-like method in these drawings that is similar to field work. Anthropology has tried to cultivate an objective sensibility through the application of the idea discussed earlier of seeing below the surface of a culture that one is unfamiliar with through the experience of culture shock. The drawing method that Chastain and Chow used also partook of this experience. The idea is to record "social facts" and social norms and then compare the two.

### **Relationship of Use, Form and Culture**

Where the Turfan project falls short is in the limits its authors put on trying to analyze the relationship of architecture to culture (although, in their detailed drawings and notes they provide a great well of information from which to begin asking questions.) This is best seen by the information that Chastain and Chow chose to edit out from their final drawings, which was all the narrative and specific-action-observation information that they had put in their notes.

This aspect of methodology, too, (that of what is sorted out and put forward) depends on the types of questions being asked. It may be that they left this information off because they had not formulated questions about the relationship of the architecture to the culture. However, it is just such a question that comes out of their study.

The discoveries that they made in their study, and which will emerge in any such study of architecture, had to do with the meanings of form in culture. In the article they wrote on their study, Chastain and Chow conclude with the following:

...while our initial perception was of an environment that felt closed, the experience of the space proved it to be very open. The gateway was more than a transition; it was a view into the daily life of the people.<sup>31</sup>

### **Buildings and Sensibilities**

Understandings of built form are revealed through inhabitation and use as well as the understanding of the inhabitants. The architecture of Turfan, with its high walls, seat-walls, grape-arbor-shaded courtyards, poplar-lined channels, individual gardens within or adjacent to the courtyards, has a built sensibility. In gentle gradations of "space built in a continuum with light and water", with filtered light and dark, hot and cool, dry and wet, the built fabric supported a continuum of use, from public to private. This contradicted the initial impression of the town as Spartan, reclusive, forbidding: the impact of the high-walled courtyard houses on people unfamiliar with the day-to-day culture.<sup>32</sup> As they said

in their article, the walls at first "give the space of the village a closed feeling...[they] enclose the courtyards [and] contain the streets..."<sup>33</sup> It was in the habitation practices, the way of life, of the culture that these initial impressions were belied.

### Conclusion: Critical Process

In an experience that, when described by Tom Chastain, seemed very much like the recorded experiences of ethnographers during their initial weeks in the field, Chastain and Chow began to learn the culture, and as they did, they began to see things such as the architecture as open rather than closed. Through their study, they began to see in much the same way that anthropologists do, both as outside observers, but also, as they became more in the know, as residents might. This is the dual nature of the anthropological method that is grounded in the field work experience of living with the subject peoples for a year.

Central to this experience is the experience of culture shock, seeing what appears to be chaos, "taking it all in," is followed by a rigorous gathering of a vast accumulation of data, the minutiae of day-to-day life. This leads to an understanding about the culture that sees a different reality, under the skin, so to speak. Of course, one brings ones own screens, but hopefully there is some difference, some part where the two do not overlap.

One tries to be outside and objective, while at the same time to be inside, and have the knowledge of a resident. If not truly objective, at least it is the experience of seeing before the screens for understanding a



*Figure 23, Chaotic scene at an arcade food-stand in Mexico City*

culture from its own perspective are erected. It is in this tension that the kernel of a Critical Process methodology for architectural practice is found. And it is this methodology that forms the subject of this thesis exploration.

#### 4. LOOKING AT FORM-SOCIAL LIFE ARRAY

##### Level of Use-capacity

Noam Chomsky has said, "Words do not correspond to pictures of things, rather, words give complex perspectives on complex ideas, and these perspectives are continually changing." Likewise, "forms" give complex perspectives, too, but these perspectives are better understood in terms of the physical world as Use-capacities, or propensities for complex uses or inhabitations, which are also changing.

Along with physical use capacities there are also associational capacities. For example there is the capacity to associate architecture with potential relationships of use or inhabitation. There are symbolic or iconic associations to be made with historical references, cultural groups, norms, social meanings and so on. There are physical associations to be made with material and elemental sensations of light, sound, touch, and the rest of the physical world. There are metaphysical or poetic associations that often are closely related to the physical.

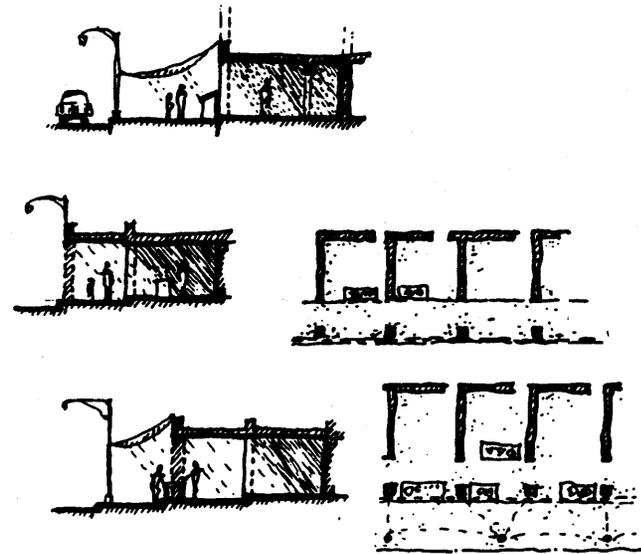
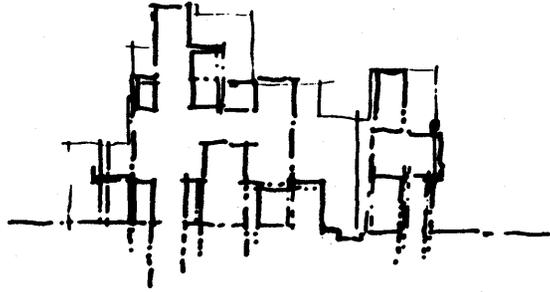


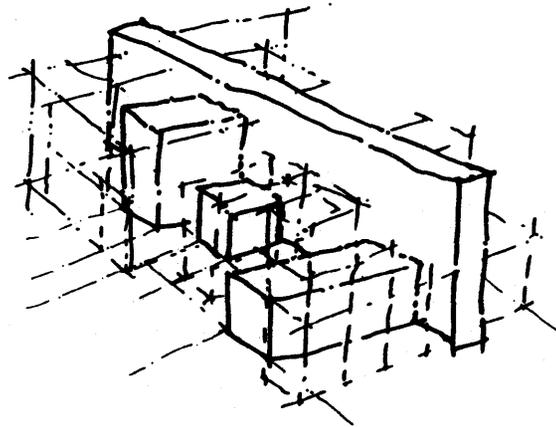
Figure 24, a range of possible inhabited street walls and arcades.



There is clearly a difference, then, between the potential use and material associations on the one hand, and the symbolic or iconic associations on the other. Architecture that relies heavily on the latter type as criteria for design decisions, while provoking thought, (as Levi-Strauss said of Totemic species: good to think more than good to eat) might not generate as immediate an emotional response as that which relies on the former type, which relates directly to the physical immediacies of life.

#### Informed understanding of Form: ex. of Habitable Walls

In the example of Turfan one can examine the question of the walled house type that exists across a large geographical and cultural range, and ask how it is related to the particular culture of Turfan -- characterized by openness and public behavior. What is the stated ideology of the walls, and how does the behavior relate to it? The apparent contradiction of public living style and the privacy signified by the walls is mediated by the use of wall-form variations as ledges and seats in the streets and in the courtyards, and by the building of cupboards or cabinets in the walls inside the courtyards, or by the presence of such active penetrations in the walls as a window-ledge for vending baked goods that existed in one house. This form may be termed a "Habitable Wall," and stands in contrast to a simple boundary wall. It does not then divide and separate as much as bring together through a mixing and joining action.



*Figure 25, Habitable Walls.*

Central to a Critical Process is challenging norms. Ideas that may seem ridiculous at first might eventually change the way architecture is understood. Without becoming an absurdist, one can take a norm such as "wall=boundary" and look at it from another perspective, such as "wall=exchange." Being able to draw on examples from other cultures helps. One can then find out what elements are used in unexpected ways to expand one's vision of their use-capacities. One can relate these new understandings to other ideas, for example thresholds and liminality, and begin to imagine what architectural forms might engage these multiple ideas directly. If one is experimental and willing to incorporate false starts, something unexpected could result.

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<sup>1</sup> Murphy, Robert, p. 40.

<sup>2</sup> Levi-Strauss, *Tristes Tropics*, p. 199.

<sup>3</sup> Murphy, Robert, p. 159.

<sup>4</sup> Noam Chomsky, lecture to the architecture department at MIT, Spring, 1994.

<sup>5</sup> For an extensive discussion of this definition of social organization, to which I am greatly indebted, see *The Dialectics of Social Life*, by Robert F. Murphy, 1968, especially chapters 5 and 6.

<sup>6</sup> Magnarella, p. 180.

<sup>7</sup> Techniques of historiography that are commonplace in anthropology and could be used in architectural inquiry include interviewing, examination of oral and written histories, mythologies, the use of comparative culture studies.

<sup>8</sup> Evans-Pritchard, p. 89.

In pre-industrial societies this is perhaps more clearly perceived. In these societies the few material goods are shared, invested with sacred values, and often used in ritual

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performances, and -- partly because of "the meagreness of culture" -- social relationships are multi-stranded. Material objects are part of an intensely concentrated system of social exchange, in which multiple roles (both for individuals and objects) and cultural meanings (both sacred and profane) are intertwined.

<sup>9</sup> Levi-Strauss, Tristes Tropiques, p. 198.

<sup>10</sup> Rapoport, p. 14.

<sup>11</sup> Levi-Strauss, p. 203.

<sup>12</sup> Levi-Strauss, p.199.

<sup>13</sup> Levi-Strauss, p. 204.

<sup>14</sup> Murphy, Dialectics, p. .

<sup>15</sup> Murphy, Dialectics, p. .

<sup>16</sup> Rapoport., p. 48.

<sup>17</sup> Murphy, Yolanda and Robert, Women of the Forest, p. 138.

<sup>18</sup> Murphy, Robert, p.238.

This "interconnectedness" is difficult to grapple with, it is complex, subtle, and multi-layered. But Murphy defines two areas of life in which it may be easier to see its form. He sees the concept of the sacred (Manna) and rituals and etiquette (manners) as:

...[bridging] the contradiction between norm and action and [mediating] the alienation of man from his fellow man [sic.]. Etiquette and ritual elevate activity to correspondence with culture, a transition from the particular to the general, just as the notion of manna reduces the general to the level of the particular. -- p.243.

<sup>19</sup> Rapoport, House Form & Culture, pp.46-49

<sup>20</sup> Rapoport, p. 12.

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21 Rapoport, p. vii.

22 Rapoport,

23 Rapoport, p. .

"Criticality" is a term used by Amos Rapoport in House Form and Culture to describes a scale with which to describe the relative necessity of certain technological or material decisions for determining architectural form. A spaceship, he suggests, has high criticality relative to its shape and its depolyment of highly specific materials to withstand great heat, whereas houses, with the exception of certain extreme examples such as igloos, have very low criticality in terms of most of their formal characteristics.

24 Rapoport, p. 47.

25 "Discord Over Harmony...", p. 15.

26 Schodek, Daniel L., Structures (Prentice-Hall, Inc., Englewood, NJ, 1980), p. 262.

27 I owe this insight to Nasser Rabbat.

28 Thomas Chastain, personal communication, Autumn, 1991.

29 Encyclopedia Britannica.

30 Thomas Chastain, personal communication, Autumn, 1991.

31 Chastain, p 32

32 Thomas Chastain, personal communication, Autumn, 1991.

33 Chastain, p. 21.

### CHAPTER 3

## CULTURAL UNDERSTANDING AND DESIGN

Cuando el castillo esta cerrado,  
¿Quién imagina que ocurre?  
Entre el palacio aruinado,  
y las murallas del arabe.  
—Nadie puede luchar  
contra los soldados del otro lado.

*When the castle is closed,  
who can imagine what befalls?  
Between the palace—ruined,  
and its Moorish walls.  
—No one may battle  
against armies so shrouded.*

## 1. URBAN BOUNDARIES IN COMPARATIVE PERSPECTIVE

The American city is divided into class and racial zones, separated from each other by boundaries of many types. Many of these boundaries are psychological, social, or economic, yet they are also topographical, that is, their reality is manifest in terms of place, and within place in terms of belonging, exclusion, discomfort, trespass, and other attributes of territory. The physical boundaries of cities are sometimes as fierce as medieval walls, sometimes more so. One example in Boston is the elevated expressway that divides predominantly Irish-American South Boston from predominantly African-American Dorchester. Another example, made by decades of social, political, and real estate developments is the "cordon sanitaire" of Boston--a swath of land West of Mass. Ave. that has had its built fabric density gradually reduced. Introduced in a formerly continuous fine-grained fabric is band of public-housing projects, parking lots, playing fields, and so forth, culminating in the recently completed Melnea Cass Boulevard. The experiential effect of this dramatic change in density effectively separates Roxbury from "Boston Proper," as the area East of Mass. Ave. is called at the Boston Redevelopment Agency.

Often these boundaries are subtle combinations of sociological and physical demarcations. For example, the area of Boston and Brookline that has the largest population of orthodox Jews recently erected a ceremonial demarcation of a wall around their enclave. While practically

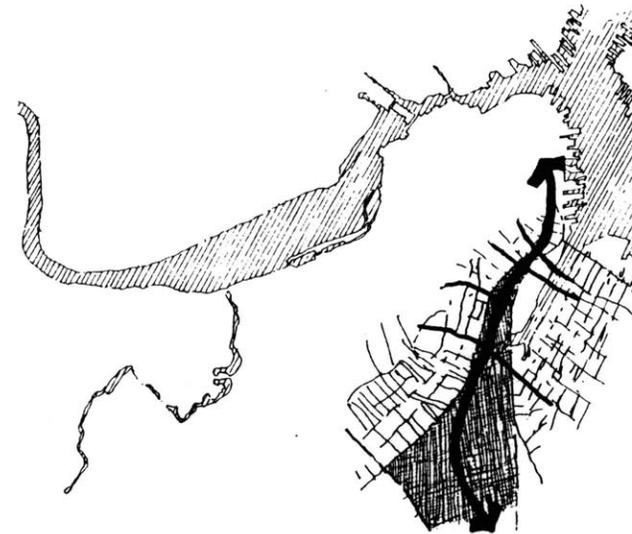


Figure 26. South East Expressway Boundary Zone.

unnoticeable as a physical object, this "Eruv" has great meaning for the community within its limits--allowing different customs and restrictions on the Sabbath, for example.

### Historical examples

Many architecturally explicit examples of urban boundaries are encountered in medieval towns and fortifications. Those of Spain and Portugal are particularly useful for the present situation because Medieval Iberia was a truly "multi-cultural" society that, like in our own case, had many complex instances of boundaries, both physical and social. The evidence of fortifications in Medieval Iberia begs the question, are built boundaries and cultural conflict as mutually reinforcing as they might seem to be? Or is a more shifting and complex picture of the relationship of culture and architecture available even in this example -- seemingly so powerful in its communication of division, of inside vs. out, of us vs. them?



Figure 27, Iberia at the end of the eleventh century.

### Case Study #2 - Use Capacities and Meanings - Spanish Medieval Fortifications

#### *What are the Norms of understanding*

Most of these fortifications were at least in part military in purpose, and also used military symbolism as part of an aesthetic or ideological program. It would seem, then, that these buildings, being directly related to the attempt to make violent distinctions between groups,

would consequently exhibit a high degree of apparent cultural distinction in their form. However, whether a building was originally built as a church or as a mosque is often easy to say, but it is not at all easy to distinguish a fortress that was originally built by Christians from one built by Muslims, or from one built by Romans, for that matter.

This militaristic architecture ironically reveals that the day-to-day culture of medieval Iberia was probably quite different from the common perception of it as a land divided between two vastly different and antagonistic societies. That is, the similarity of the use-capacities of fortified architectural form irrespective of cultural identity suggests that this traditional view of Medieval Iberia should be modified.

A more useful perspective is of one diverse cultural system, within which, at different times, particular militaristic religious and ethnic groups set themselves off from one another. The way of expressing these differences in architecture more often took the form of symbolic decoration, rather than structural organization of space and form -- in which there is a high degree of shared culture. During medieval times the buildings were decorated in ways that symbolically identified them, to enhance what sense of identity was built in the structure and spatial organization. It is possible to see on the castle of Guzman el Bueno in Tarifa, for example, a remnant of decorative brickwork on the inside wall of the courtyard in the style typical of the Islamic Almohad reign.

However, probable differences in social organization do appear in the way certain large fortress complexes were organized. The low-lying sprawl of the Islamic castle, where the Alcazaba is built up into the wall at one end, differs from the Christian fortifications, dominated by the

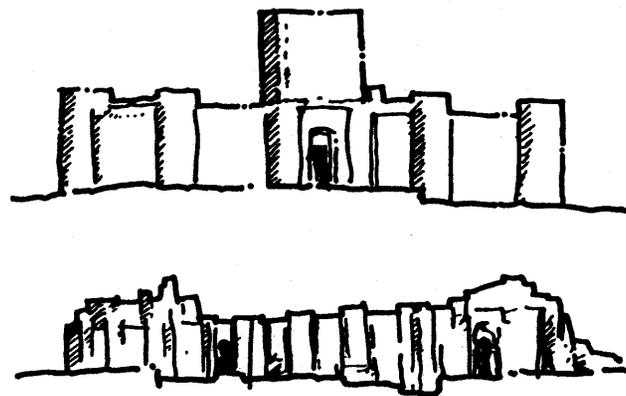
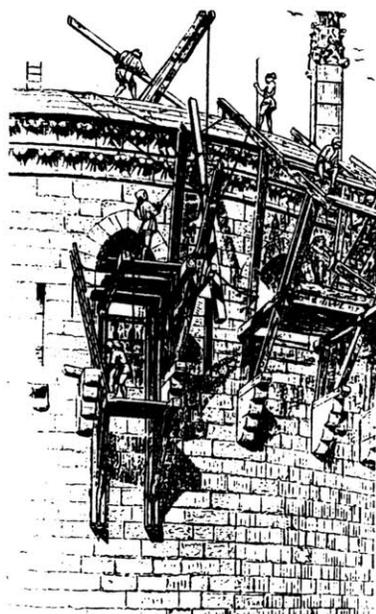


Figure 28, top: castle with keep, bottom: "Islamic" type.

Construction des hours du donjon d'un château fort, au Moyen Âge (Roger-Viollet).



large, tall keep or donjon, insulated from the surrounding Bailey. The introduction of the keep by the Christians was a matter of considerable military importance (in other words having a high degree of "criticality"), and is not comparable to the definition of space and form in other areas used for day-to-day life. Often, in fact, the Christian knights would add a keep to a castle that they had captured from the Moors. Aside from converting mosque to chapel other changes were not critical for inhabitation.

The Islamic presence on the Iberian Peninsula was almost three quarters of a millennium (712-1492), for much of which time Islamic rulers held most of the territory. This epoch was marked by tremendous cultural diversity, increased standards of living, cosmopolitanism and international trade, and a flowering of cultural production, learning and tolerance. It also saw migrations and cultural shifts of sub-populations in terms of language, religion, economics, geographical location, and so forth.

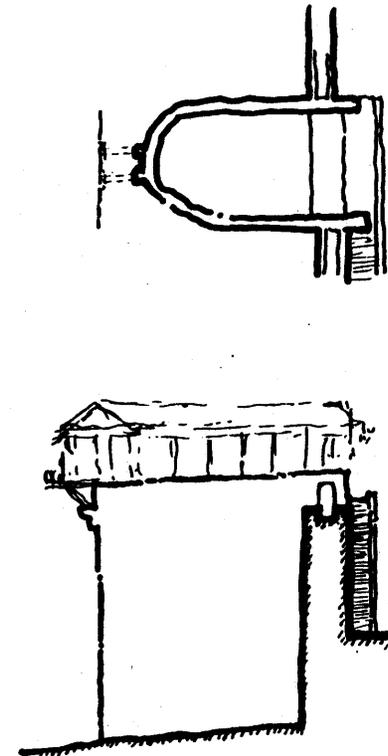
Given such a complex history, and the use-qualities of the architecture which were not tied to religious identification, it is clearly too simplistic to emphasize duality of Islamic Spain and Christian Spain. In fact, this very notion of duality is a product of an ideological campaign on the part of the Christian forces engaged in the "Reconquest," who, after the Tenth Century, increasingly employed the image of Islam as a temporary Scourge upon Spain -- almost three centuries after Islamic civilization was established throughout the peninsula.<sup>1</sup> Ultimately, the cautionary lesson of the fortified architecture of Medieval Spain for today is to carefully analyze the actual

cultural situation in terms of day-to-day complexity, shared territories, and blurred boundaries, as well as the actual use-capacities of the built environment, rather than making assumptions based on symbolic gestures and preconceptions about the meaning of forms.

*What evidence for what uses through history*

The day-to-day and year-to-year life of these fortified towns and complexes was complex, and the heavy masonry architecture was employed in ways that generated maximum capacities for multiple uses. They served as bases for raids, they were enclaves within enemy territory, they were focal points for towns or were themselves small towns, they enclosed religious buildings, they were symbols of dominance or resistance, goals for campaigns, homes during sieges, and caravanseries along trade routes. And as they changed hands between forces, through times of coexistence or violent antagonism, they were restructured both physically and in terms of identity and meaning.

These fortresses were involved in long-term siege warfare and also sat out long time-spans between battles, up to hundreds of years. They were thus planned within a larger imperialist network of fortified towns. The earliest purely technical treatises on fortification architecture and warfare are from the Sixteenth Century, after the advent of gunpowder and cannon. Earlier discussions of fortification, as found in Vitruvius, for instance, deal with them as part of urban and architectural endeavors.



*Figure 29, Toledo, wall and battlement with timber addition (this page). Construction method (facing).*

In his article, "The Fortifications of Al Andalus," the Spanish archaeologist Juan Zozaya describes the way in which the over one thousand castles in Spain of Islamic origin were part of a "carefully planned" system of territorial control and communication rooted in the Islamic world's Roman and Byzantine heritage, and, "the idea of the nation as more than a reflection of spiritual cohesion...a clear notion of geographical unity."<sup>2</sup> Indeed, the communication system of small watchtowers as well as castles was so efficient, according to Zozaya, that "a coded message could be sent [with smoke signals] from Gormaz (Soria) to Cordoba in approximately five hours."<sup>3</sup>

Moreover, Zozaya discusses the importance of fortifications in terms of two demographic conditions of the time. The first was large numbers of displaced peoples resulting from shifting territorial control, which contributed to the need for control of inhabitants of urban settings through fortifications, and the urbanistic character of large fortifications. The second was the rapid movement of Islamic forces into Northern Spain at the outset of the occupation:

Territories had to be defended right from the start by fortified systems, since there was not yet sufficient demographic strength to accomplish defense through full economic occupation.<sup>4</sup>

The castle of Salvatierra, for one example, was held by the knights of the Order of Calatrava for over a century deep in Islamic territory South of Toledo.<sup>5</sup>

The case of Gormaz, in Soria, is an example of a large, urbanistic fortress that existed as an Islamic enclave in territory recaptured by Christians for more than two centuries. This and other fortifications were modifications of preexisting ones, or used materials from local buildings, and depended upon local labor to be built. The issue of territorial control was not absolute: certainly to survive for so many years these communities had to have been involved in a system of economic and cultural exchange with the surrounding communities. Indeed, in the case of Gormaz at least, archaeologists have explored a sizeable town that existed outside the walls of the fortress, now visible as scattered ruins.<sup>6</sup>

### *Continuity and Change Through Time*

How has this architecture found its meanings in use? As Oleg Grabar, in his essay, "The Architecture of Power" has put it.

...the most consistent identification of a function or power [of architecture] lay in human uses and associations, in the ways in which official ceremonies or ordinary living habits determined the quality of otherwise unspecified forms...

Motifs such as the horseshoe arches, decorative patterns, or pointed versus flat crenellations, and even basic building-types such as octagonal towers or bent-entrance gateways, appear in all types of buildings, from churches and mosques, to castles and city-walls, to contemporary luxury homes, markets, lighthouses, hotels, fast-food joints and so on. The meaning of these features is unclear when viewed

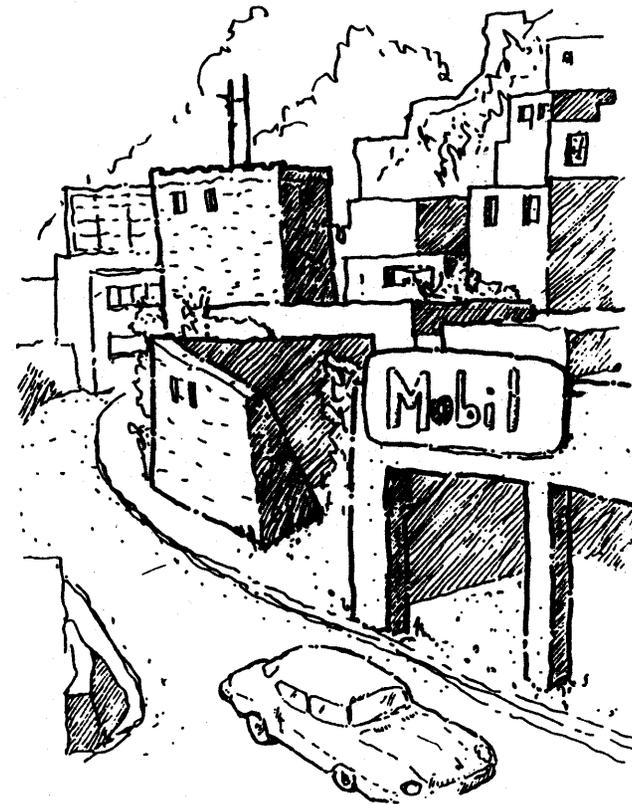
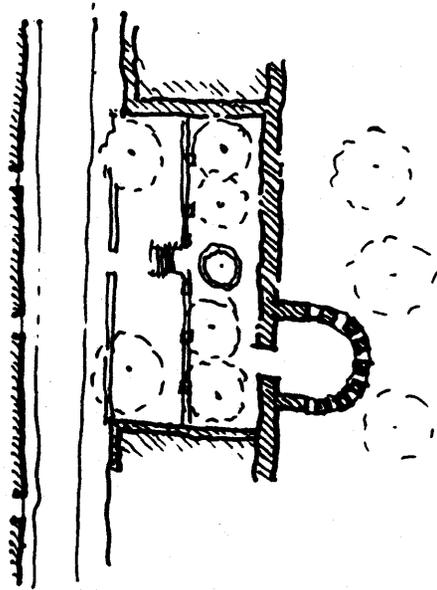


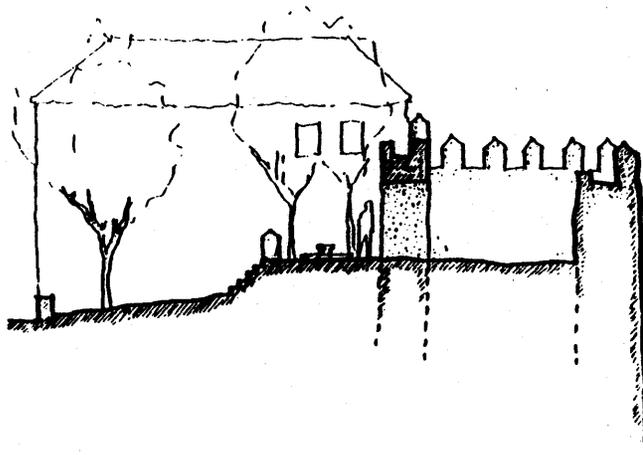
Figure 30. Portalegre, Portugal.



as independent elements. Is the bent entrance typical of Islamic fortifications really attributable solely to an attempt to "obstruct a hostile entrance?" Indeed, this same characteristic of many Islamic domestic buildings is attributed to a desire for "privacy," a related but quite different function, especially on such different scales.

Today, castles and fragments are found used as retaining or shear walls, and acting to preserve older buildings both in physical terms, in the event of war, and historical as well, in the case of historic preservation. The walls appear and disappear in the towns today. They appear when they define places or boundaries, or at gateways -- places of complete exchange between outside and in.-- they disappear when they are used as support for other buildings, or when they are fully surrounded by other buildings.

Due to the similarity of use-capacity in the architecture the different coexisting societies probably shared a great deal of cultural "action" by virtue of the commonality of the "material culture." The available technology was similar, and the culture of warfare was also common.<sup>7</sup> By piecing together such clues about the cultural milieu, one can reveal a field of influences and restraints, within which a realistic array of specific propensities of a given architectural form can be grouped.



*Figure 31, Toledo, existing placita at wall and battlement.*

### Physical Typology of Boundaries

The first step is to carefully examine the form of this (or any) architecture, and understand how it works. The following list is an example of what can be investigated:

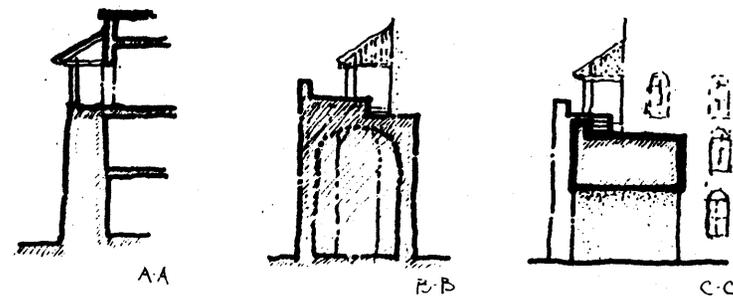
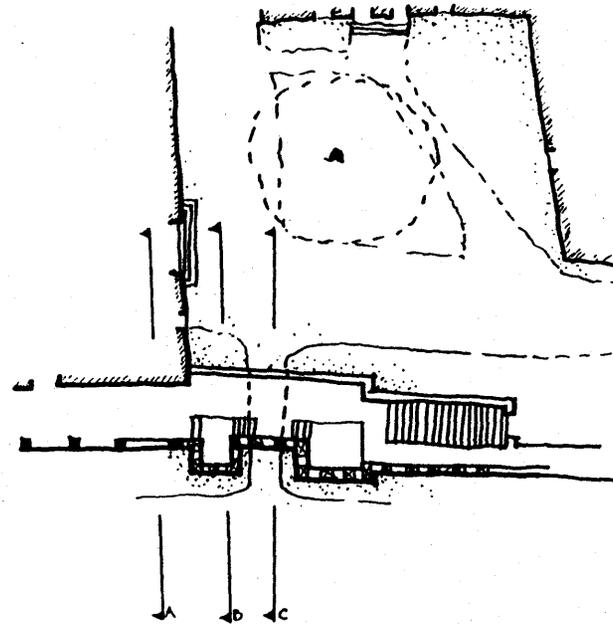
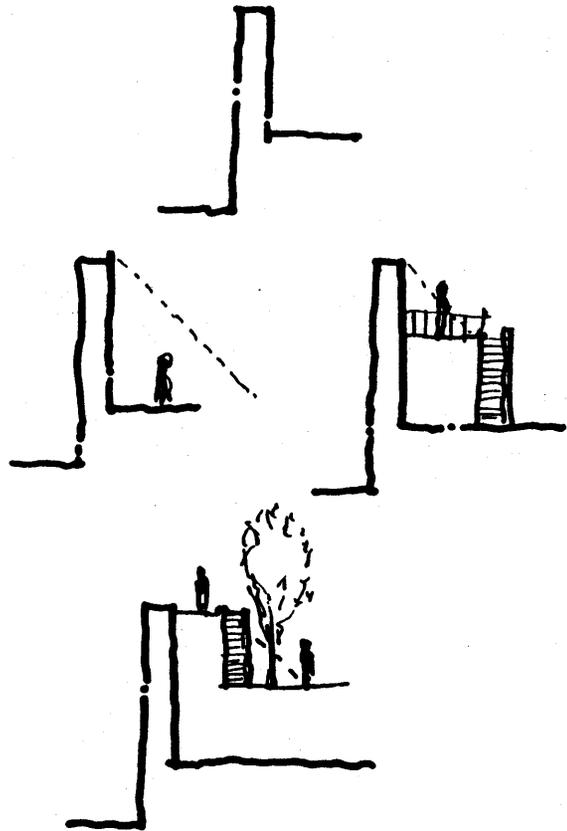
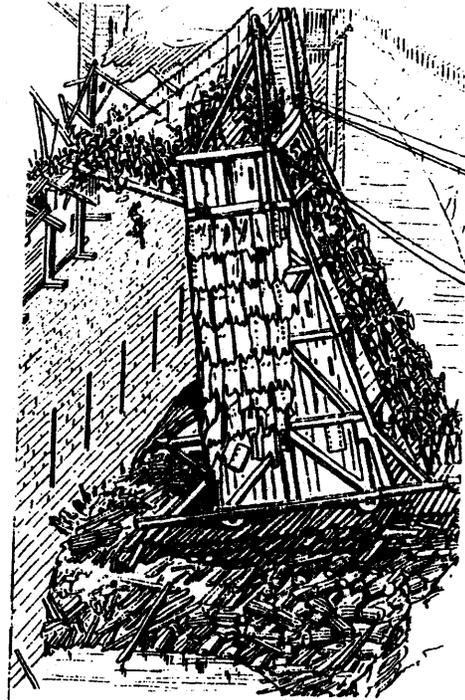


Figure 32, Avila, Spain: Relationship of wall, gate, plaza, access, and building with balcony.



Walls in section:

activities on either side  
relationship of ground levels  
exchanges, overlooks



Tour de siège, au Moyen Âge (Roger-Viollet).

Figure 33. generic sections, (left); inhabitation with "scaffolding" (right).

Connections with adjacencies:

"thickening" and extensions/lateral and perpendicular.

Infill against (through) walls

Walls as landscape elements

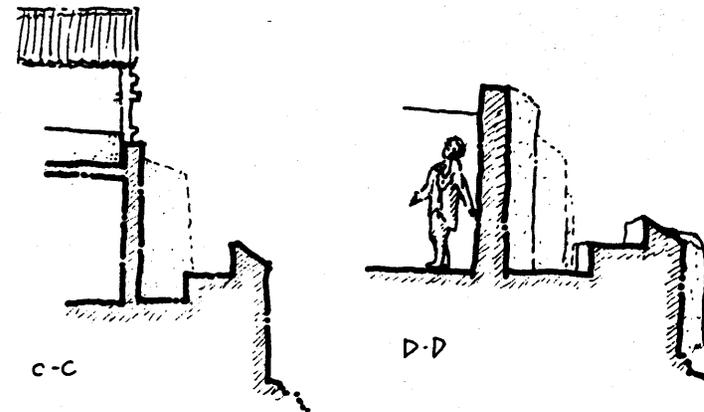
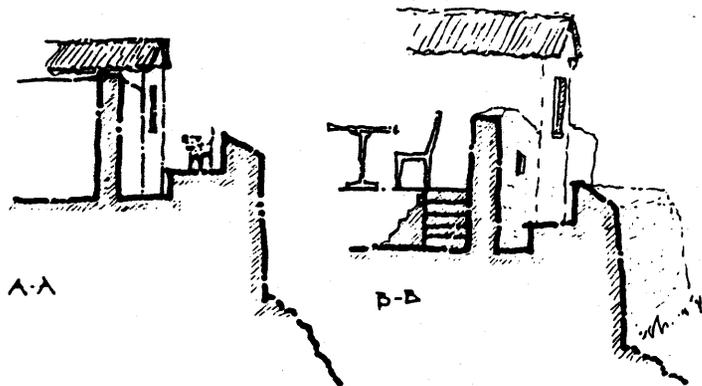
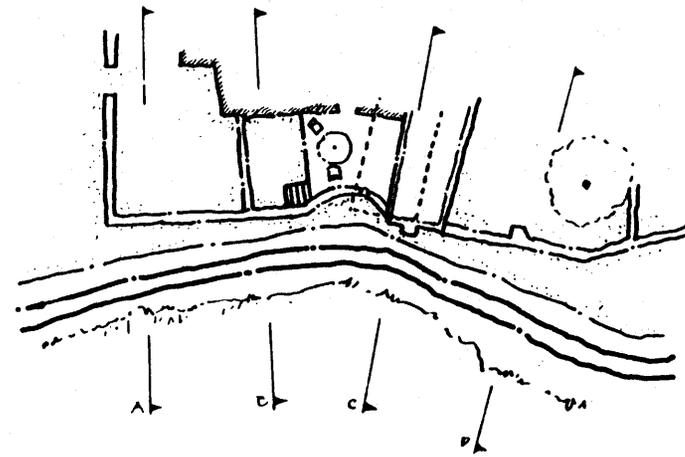
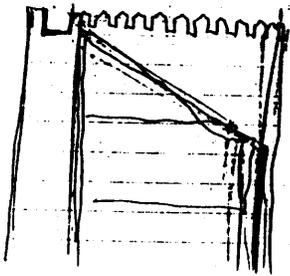
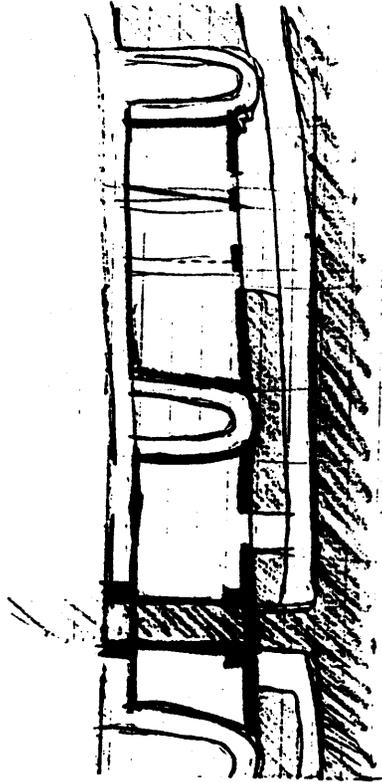


Figure 34, Marvão, Portugal.



### Fabric inside & outside:

Vestiges of historical plans.

Activities at/between walls.

Access: walkways, stairs, gates.

Intensification of demarcations in serial experience.

Views

*Questions: What happens behind the wall? Is there access to have ledge from the other side? At what levels? Are the towers occupied?*

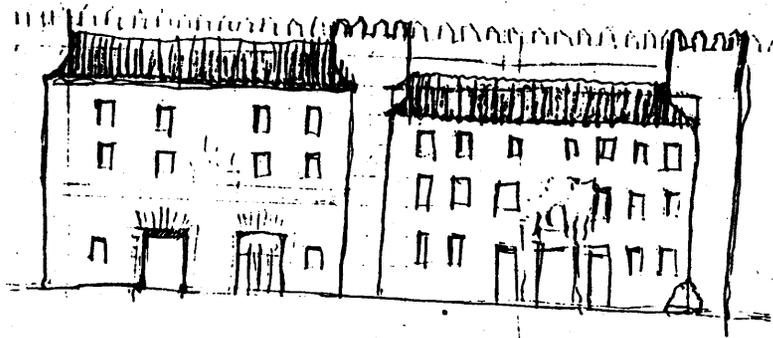


Figure 35, Avila

**Walls in plan:**

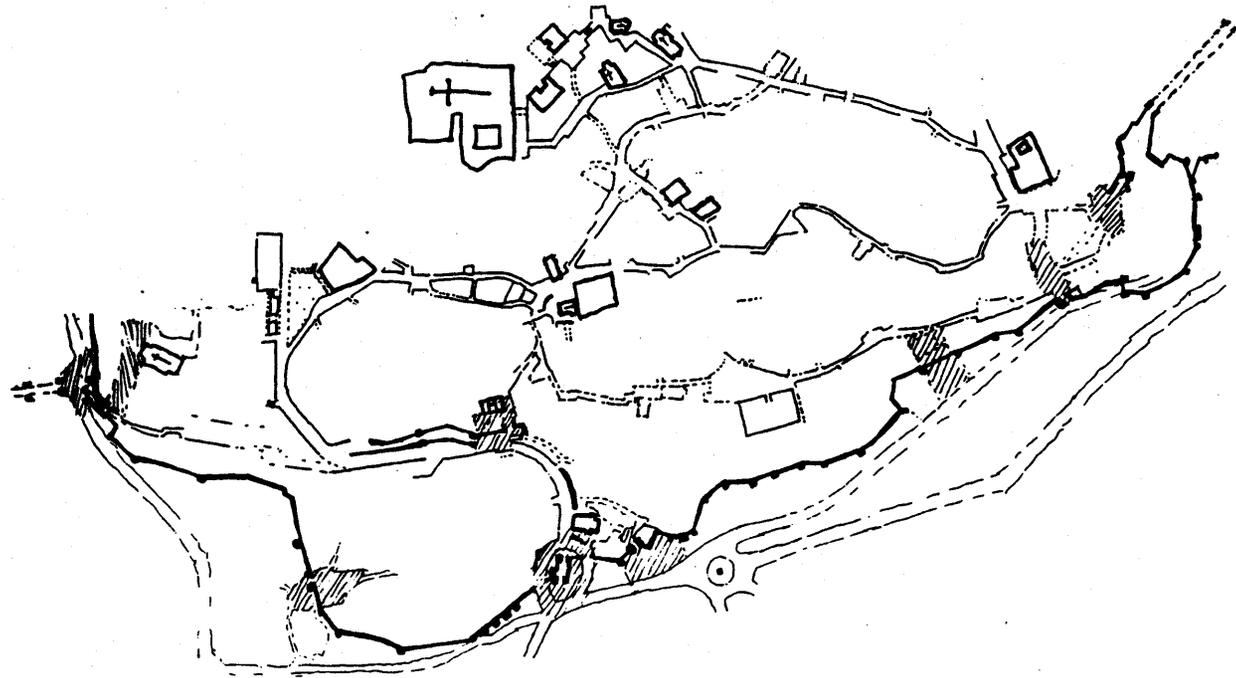
Containments, divisions, exchanges.

At city size.

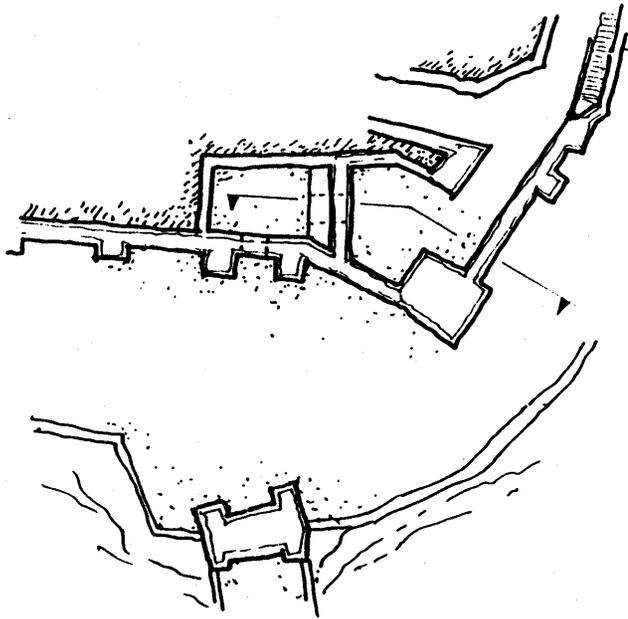
At gate size.

At building/tower size

At room/overlook/window/balcony size.



*Figure 36, Toledo, Spain.*



Associations/Relationships:

- overhanging vegetation
- shading elements
- gates, entrances, spanning elements

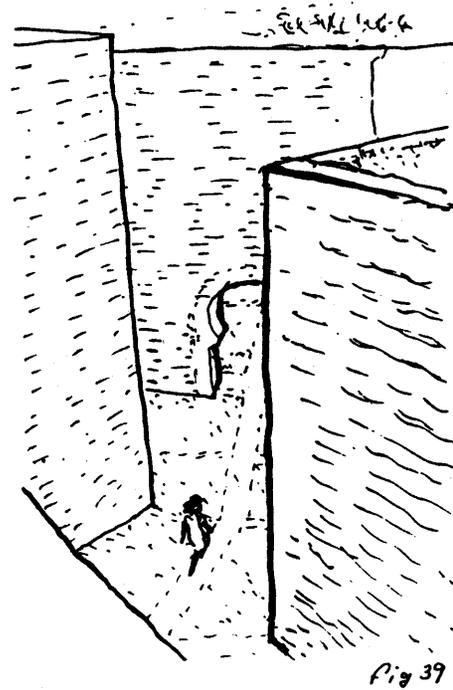
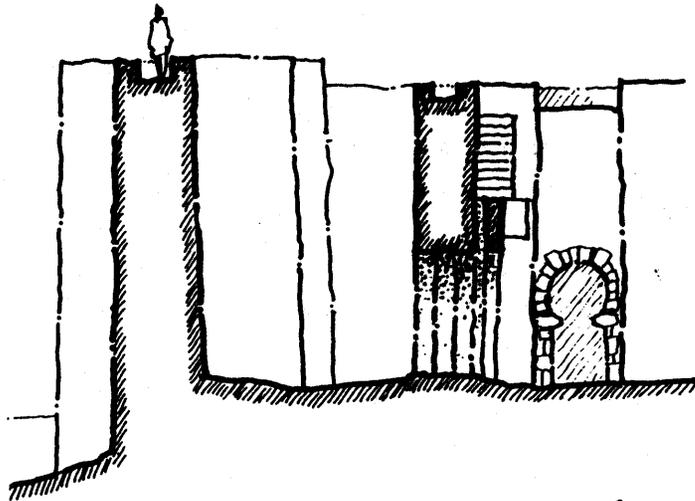
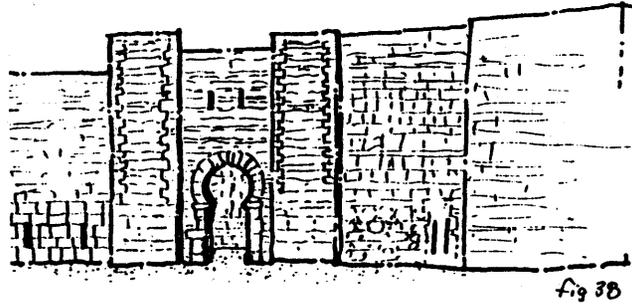
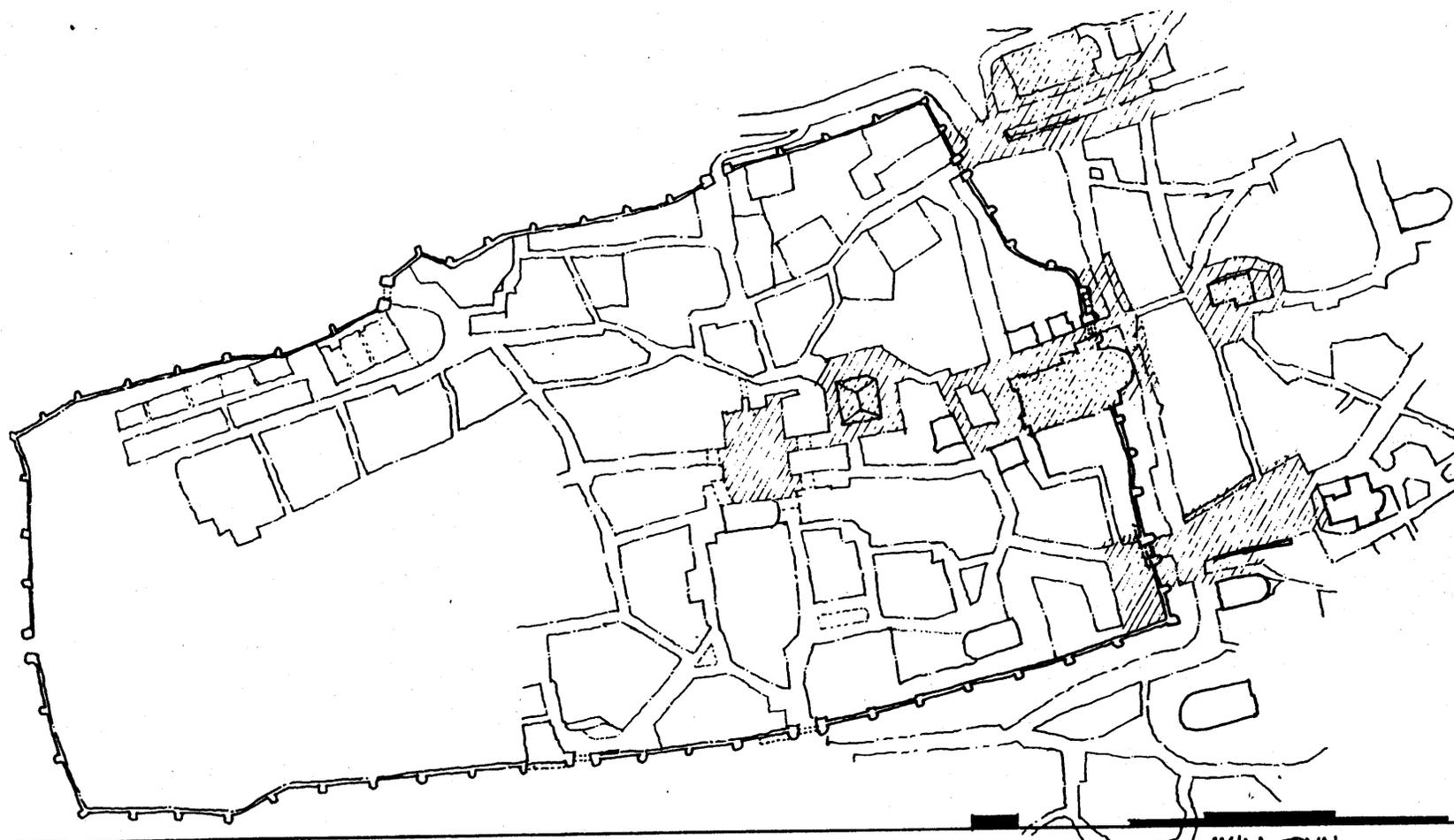


Fig.37-39 Toledo. Puerta de Alcantara.

Fig. 37

Fig 39



AVILA, SPAIN  
ZONE OF EXCHANGE  
BETWEEN OLD AND NEW TOWNS  
BUILT WITH RECIPROCAL  
PUBLIC SPACES AND BUILDINGS  
ACROSS MEDIEVAL WALL  
SCALE: 1"=200'-0" 0 20 40 60

Figure 40. Avila Plan -- showing public spaces at fortified edge.

Structures, materials:

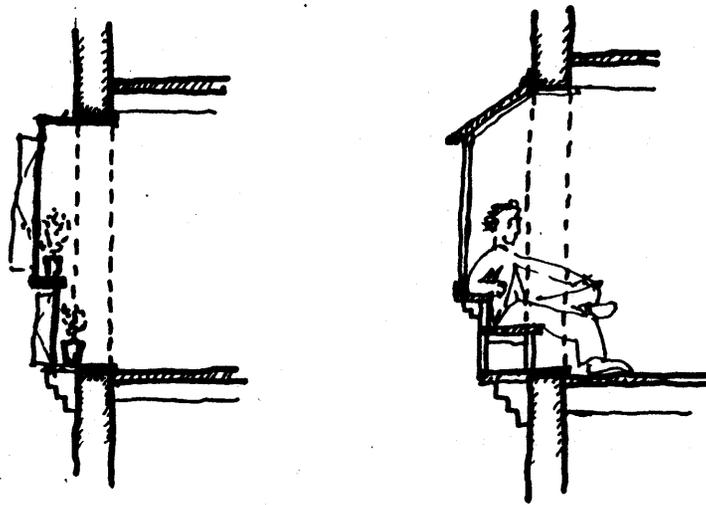
structural connections

balconies, crenellations, arcades, windows

retaining walls

garden walls

courtyard walls



*Figure 41, Toledo: room extensions.*

## 2. CULTURAL SIGNIFICATION: FORM AND DIALOGUE

### Continuities

Architecture is a product of the attempt to inscribe cultural norms of ordered relationships into the physical world.<sup>8</sup> The products of this process bear the imprint of it, as if striving to conform to such an image of order. At the same time, each building exists like a piece of evidence in a courtroom, testifying to a prior inscription. It challenges and informs any new efforts.

### *Dialogue*

There is legacy of "dialogue" in the architecture of Medieval Spain, that is characterized by a dynamic blending or partnership of forms and spatial organizations. A noted example of this legacy of blending is the Tenth Century Hermitage of San Baudelia de Berlanga. On the border between the Islamic Taifa of Saragossa, and the newly-reconquered Christian territory of Alfonso VI, and the kingdom of Leon-Castille, it is less than thirty kilometers from the enormous fortress of Gormaz, an Islamic fortress within Christian territory. This building's origin is a matter of academic speculation, although tradition and consensus have it as a Christian building. However, it represents a blending of culturally-

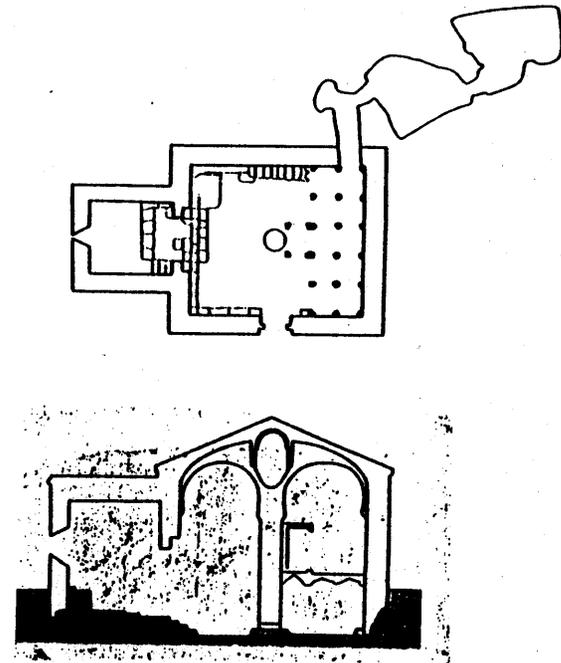


Figure 42, San Baudelia de Berlanga

identified forms and decoration that is unique, impossible to categorize. It employs a "forest" of horseshoe arches to support a chorus balcony, the roof is supported by an unusual single central column and a ribbed vault, and the wall murals were of Christian scenes but painted in an Eastern style and adorned with animals from Africa and the East.

Its originality as a building shows the mark of builders who, like medieval Antonio Gaudi, freely engaged influences of a complex historical situation in a highly personal way. The local traditional origin legend of the building has it built as a memorial to a hermit. It is believable that this hermit could have inspired, or himself have been, the kind of individual personality that could have made such a work. This building suggests a collaboration that may have crossed cultural boundaries, through the instigation of some person or group of people.

Another example of this "dialogue" is the first Christian intervention in the Great Mosque of Cordoba (14th C.). Respectful of the plan and space of the Mosque, the intervention merely lifts the roof of a small number of bays to form a Gothic nave and choir (the Capilla Mayor) making a small space-within-a-space, lit from above, perpendicular to and intersecting the axis leading to the Mihrab. In this form the building could have been shared for worship, as was the central cathedral of the city after the Islamic occupation.<sup>9</sup>

There are numerous other examples of this continuity of multi-cultural dialogue in the architecture of Medieval Spain and Portugal, the Mosque of Bib al-Mardum (St. Christo de la Luz) in Toledo and the Mesquita of Mertola to cite just two. There are also plenty of examples of what can be called "discursive" architecture as well: ideologically

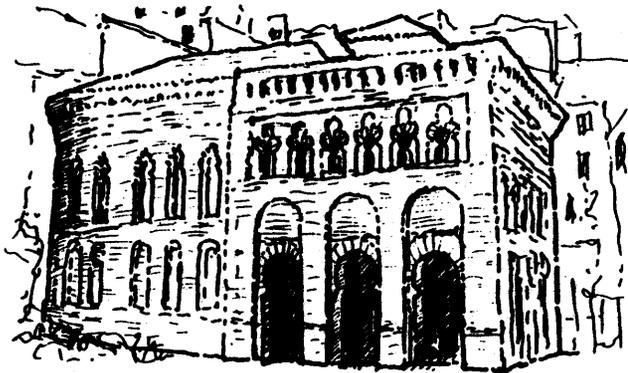


Figure 43. Mosque of Bib al-Mardum.

weighted buildings that in form or symbolic effect define religious or cultural difference. Primarily, as one might expect, the architecture of dialogue is associated with smaller buildings, day-to-day buildings, mercantile buildings, gardens or dwellings. It is also characteristic of the urbanistic elements of the architecture of fortification.

The direct experience of medieval architecture in Spain up-ends normative thinking and categorization. Ideologies are contradicted because the "ecological" reality of the human-scale experience of the built form supports the sense of a dialogue of many cultures. The fact of the blended culture, manifest in the buildings as attempts by the polyglot population to define the environment, counters other-ness and irreconcilability. Architectural experience can counter social norms as well as enforce them. Even in an extreme case like the Cordoba Cathedral imposition into the Great Mosque this dialectic is palpable. In other words, the fact of the long-term coexistence of the cultures is overwhelming despite the ultimately successful attempts by warring factions at a negation of the Other.

### *Directions*

Does the historical picture point in unexpected design directions? The challenge in a city, such as Boston, of boundaries both nebulous and fraught with reserve, is to encourage inhabitation of and awareness of the boundary zones, to discourage exclusive claims, and to propose built and build-able supports for both the shared experience of the place, and the process of making it in a way that expands the definition of community.

## Walls: a democratic architecture?

Carlos Fuentes describes the potential of walls in the following way:

...as the fundamental principle of architecture...if Indians used the wall to separate the sacred from the profane, Spanish conquistadors to separate the conqueror from the conquered, and modern citizens the rich from the poor, the Mexican of the future should use the wall again (opposing it to glass, concrete, and artificial verticality) as an invitation to move freely about, leave and enter, flow along its horizontal lines. Arches, porticoes, patios, open spaces, extended by walls of blue, red, and yellow; a fountain, a canal, an aqueduct; a return to the shelter of the convent, to the solitude that is as indispensable to art as it is to knowledge itself; a return to the water we obliterated in what used to be a city of lakes, the Venice of the New World.<sup>10</sup>

### 3. CURRENT ALTERNATIVES IN ARCHITECTURE

#### A non-meeting of the minds

The present discourse between architects about the relationship of their work to culture or society easily degenerates into a non-meeting of the minds. A good example of this is found in the transcript of a conversation between noted architects and theoreticians Christopher

Alexander and Peter Eisenman at Harvard a few years ago. They are discussing what makes good architecture in society. They presuppose a lot of understandings about the relationship of architecture to culture. When Alexander says, "It never occurred to me that someone could so explicitly reject the *core experience* of something like Chartres [emphasis mine]," or when Eisenman says, "I would argue that the pitched roof is -- as Gaston Bachelard points out -- one of the essential characteristics of 'houseness,'" they are generalizing from a distinct cultural perspective without acknowledging it. And they both stumble when they try to universalize their own experience, as when Eisenman says, "Palladio's Palazzo Chiericati...is more intellectual [than Chartres] and less emotional. It makes me feel high in my mind, not in my gut," or when Alexander waxes:

...the pitched roof contains a very, very primitive power of feeling. Not a low pitched, tract house roof, but a beautifully shaped, fully pitched roof. That kind of roof has a very primitive essence as a shape, which reaches into a very vulnerable part of you.

They engage in solipsism. They have no shared methodology, and they are not discussing architecture with relation to a shared culture. To better understand each other they need to be more open to the variations between the cultures from which they have developed their ideas. Their ideas about the relationship of architecture to culture are not grounded in common cultural data -- rather, each has developed his own

personal collection of cultural examples, which do not have much overlap.

The two parties might well agree on elemental points, but they wouldn't know it because they use such different methods to get where they are. They sometimes talk at cross-purposes:

P.E.:...if it is only the too-large that you will admit, then we have a real problem.

C.A.: I didn't say too large, by the way, I just said large. Quite a different matter.

P.E.: You said a boundary larger than the entity it surrounds. I think you said too large.

C.A.: I said large in relation to the entity. Not too large.

P.E.: Large, meaning larger than it needs be?

C.A.: No, I didn't mean that.

P.E.: Well, could it be smaller than it needs be?

C.A.: Unfortunately, I don't know the building you just described.

And they are only sure that they are understanding each other towards the end of the discussion when Alexander charges Eisenman's idea of good architecture with "Screwing up the world."<sup>11</sup>

## Directions for "Democratic" Design

### *Multiple inputs*

A bridge is needed between the current traditions of thought about the relationship of architecture to social life. Ecological determinists find architecture (and material culture in general) to be responding primarily to ecological factors. Environmental determinists

find architecture (and material culture in general) to determine cultural expression and social life. Cultural relativists (like Rapoport) argue for the static and hermetic quality of cultures, while also admitting the material, cultural and environmental factors. Relativists of the Western Art History school see the creativity of the artist-architects in a high cultural tradition little effected by environmental, material, and socio-cultural factors.

What needs to be further incorporated is the understanding of culture as a diverse web of influences and tensions, reflecting a dialectical process of multiple factors, historical continuities and ruptures, and the infinitely diverse and changing perspectives of individuals.

While users of architecture may have widely different cultural constructs for making "sense" out of it, they share the physical experience of interaction and use, encouraging a "visible rupture" in the congruence between norm and action. And the experience of individuals in turn changes the cultural norms.<sup>12</sup> In Robert Murphy's words, critical responses of individuals and normative understandings about culture coexist in a dynamic:

[Critical responses] lack the symbolic formulation and delineation of the normative as well as the commonality and pastness of norms, and they may best be regarded as ideas on the way to becoming culture.<sup>13</sup>

This is what Noam Chomsky refers to as the creative human intelligence, and it is where architecture should seek to engage people.

This supports proposals that take a direct approach to incremental growth as their basic understanding.

*In the modern context*

This task is, however, very different in the modern urban situation than in traditional vernacular settings. Using an example from Evans-Pritchard as well as from his own field work, Murphy argues that the depth of normative culture in traditional societies actually allows a kind of freedom to exist:

...it is the very depth of the ideology of patrilineality and the pervasiveness of the model of lineages that allow the Nuer to move about so freely and to honor the matrilineal links as much as the agnatic ones...The perpetuation of social life depends, then, upon the placement of a venter between its flow and its perception. Culture is an illusion, but, like other illusions, it gives life.<sup>14</sup>

That is, behavior that may be quite disorderly appears to be ordered because it is understood or apprehended in an ordered system of thought.

In modernity we may have lost this sense of freedom that came from acting with a feeling of efficacy. We now sense ourselves more at the mercy of a culture in which we do not feel we play a part. And insofar as one of the elements of pre-modern cultures (particularly in their ritual and religious aspects) may have been to give people a sense of partaking in the events of nature in some efficacious way, we may

also feel more at the mercy of a larger world and nature beyond our control.

This is a result of our ability, as Murphy describes, to see the contradictions in such rapid-fire succession that we cannot assimilate them:

...we are being saturated with information that is indigestible for its sheer quantity but also destructive of the image of order that we carry in our minds.<sup>15</sup>

For this reason, in designing or in trying to understand the relationship of architecture to traditions we must look directly for the sense of efficacy vis a vis the architecture, rather than simply looking for tradition as expressed in old forms or practices. In other words, we must look at the whole of architecture and the social processes of its making and being used.

### *efficacy*

One of the key questions raised by Kevin Lynch, both implicitly and explicitly, in his book, What Time is This Place?, is the question of choice and freedom for the individual in society to understand and interpret their own position and efficacy in the shifting reality of place and history. It is difficult for Lynch to find the right answer to this question, as concerned as he is for the often contradictory demands of democratization and openness on the one hand and a sense of rootedness, security and peacefulness on the other. The conflict is captured in the following passage:

While attempting to keep the future open, there is no need to keep it wide open, able to change into anything else imaginable. Not only would that objective be prohibitively expensive and analytically impossible but the psychological strain of such an uncertain future would be more than most people could bear.<sup>16</sup>

Of course, the future is uncertain, and reading Lynch it becomes evident that what he is really talking about is attempting to create images of order and relative continuity and stability for communities to use in the face of discontinuous and chaotic modern life -- he is essentially trying to establish a cultural framework that can be used in place of the traditional ways of life that in pre-modern times appear to have given individuals that sense of rooted-ness and community that is now often lacking.

The dangers that I see in this are twofold. The first is directly related to the question of choice, power, and efficacy of the individual in trying to shape their own history within the social milieu. In which direction does the designer or planner lean between the two closely aligned poles of image-tradition enhancement on the one hand and actual dictation of an essentially conformist, or at least rule-giving, form (either architectural or legal) on the other. Again, Lynch does not want to come down hard on on or the other side, seeing as he does benefits in both models:

Closures [of choice options] when they conserve critical resources or eliminate damaging possibilities or reduce uncertainty and multiplicity to comprehensible dimensions or

(paradoxically) preserve choices (as by saving a certain range of differentiated environment).<sup>17</sup>

The one comment that I would make about this passage is about the phrase "comprehensible dimensions." While there is no doubt that the environment can often appear incomprehensible, especially in cases of natural disasters such as earthquakes or in situations of violence wrought by humanity, there is also no doubt that at some fundamental level, what makes us human is our struggle to comprehend these very things, and our triumphs (both personal and social) in doing so. It is hard not to see Lynch as somewhat of an elitist in these sentiments, writing as if it is necessary to protect "people" from the suffering they will undergo if confronted with too much "incomprehensibility."

The second problem is the more direct one of how to deal in a projective sense, a design sense, with these very issues. Both in What Time is This Place? and in Managing the Sense of a Region Lynch makes some provocative and challenging suggestion. In the former book he explores, as stated above, ways that modern society can enhance its "image of space and time" by many methods, all of which involve organization, celebration, and methods of comprehending change. This is a fine balancing act, which contains the very real danger of being adapted as an anesthetizing method, packaging the experience of change in ways that, because they attempt to dampen its shock and quiet its disturbing elements, actually end up distancing the individual from the experience rather than bringing them closer to it. The suggestion of "Time Collage" as one strategy -- carefully interweaving past present and future in an interactive display, has a Disneyesque

quality that must be confronted. On the other hand, Lynch always throws in a caveat to the individual, even in otherwise questionable declarations such as the following: "Sensation should be acute, informative, pleasant, *and subject to receiver control* [emphasis mine]."18.

Lynch's difficulty with this essential problem, I feel, is partly a result of the way in which he views the relationship between the individual and the environment as being given by the environment, and not the other way around. He says, "Orientation in space (and time) is the framework of cognition."19 whereas much of recent structuralist, linguistic, and anthropological research would have it the reverse, such that: Cognition is the framework of orientation in space and time. Furthermore, a dialectical point of view would have it somewhere in the middle as follows: Cognition makes frameworks for orientation through space and time. 20

### *Dialogue*

The act of cognition and interaction with other cognitive beings is dialogue, if listening and responding is happening. In architecture this kind of dialogue can take place directly in forming the built environment. Interaction with people, especially in neighborhood groups, has been the goal of the developing practice of participatory design and planning.

Donald Appleyard states the general philosophy of this group of planners and architects in his introduction to the book, Public Streets for Public Use. He says:

**"Several competing population groups, establishments, public agencies, and professions vie with one another for control of the street space, each representing or claiming to be the public. The most powerful and well-established groups often win, but they do not by any means represent the public interest. For who is the public? I would define the public to be everyone. Not everyone can get what they want from the street, but it should be public policy to achieve the greatest good for the greatest number. And no one should be excluded..."<sup>21</sup>**

Yet, if a space is designed a a physical zone of exchange, will that discourage exclusive social claims upon it, and encourage, through providing the right kind of physical supports, cultural and social exchange?

Mark Francis, in his essay, "The making of Democratic Streets," describes how the problem of conflict between interest groups about desired ends can be incorporated into the design process for a playground:

**Researchers discovered that adults wanted a clean and safe play structure while children wanted opportunities for playing with dirt, water, and natural elements. A participatory approach allowed for these two groups to educate and negotiate with one another directly to create a solution that provided elements from each group.<sup>22</sup>**

### *Process of Public Space*

In the book Public Space, the authors address the topic of how architects and planners can help make physical environments where positive, "democratic" social life can be supported. The authors argue that these kinds of places can grow from the same kinds of "democratic" processes that they seek to promote.

The specific architectural relationships or physical definitions used as examples -- what the authors refer to as the "human dimensions" of public space -- are described in terms of general qualities of public and private, orientation to the street, amenities in terms of light and shade, seating, fountains, and so forth. But the question of what kinds of built definitions, in terms of specific dimensions, or materials, or types of construction, or generic forms, are down-played in this approach. The participatory processes used to negotiate a design among a variety of different types of people is given far greater attention.

But are there potentially specific architectural forms, generic principles of building, that could be also incorporated into the design process, without predetermining the end result? Are there organizational principles of form that are critical, even across different cultures, to a particular reading of meaning, such as the inviting and inclusive quality of public space? As discussed above, certain architectural forms tend to lend themselves to certain understandings and uses, as a result of the fundamental physical nature of human interaction with the physical environment.

## Alternative Practitioners

### *Lucien Kroll:*

It is worrisome to note the overriding conviction that a public space can never be conceived by the public and grow out of its own disorder. It is painful to realize that contemporary public life no longer has the right or even the opportunity to project its own organic image... On the one hand, some planners skillfully follow procedures to create a public plaza that may sometimes work -- but only impersonally. On the other hand, an environment can evolve through natural processes that culminate in a lively, open place.<sup>23</sup>

In one project, Vignes Blanches, a neighborhood in a new town, Kroll and his participant-designers even went so far as to reject the normal idea of differentiating sidewalk, street, and yard, preferring to allow the residents over time to establish their small planting areas, their parking spaces, their garden walls, and so forth through direct negotiation as they came up with new desires and responsibilities.<sup>24</sup>

### *Yona Friedman*

Yona Friedman offers insights about the organization of architecture as a practice, in the opening chapters of his book, Towards a Scientific Architecture. He points out that architects in post-industrial modernity have developed methods for dealing with the new demands of the overwhelming numbers of people for whom they are to design entire environments. These methods, however, involve the abstraction of the

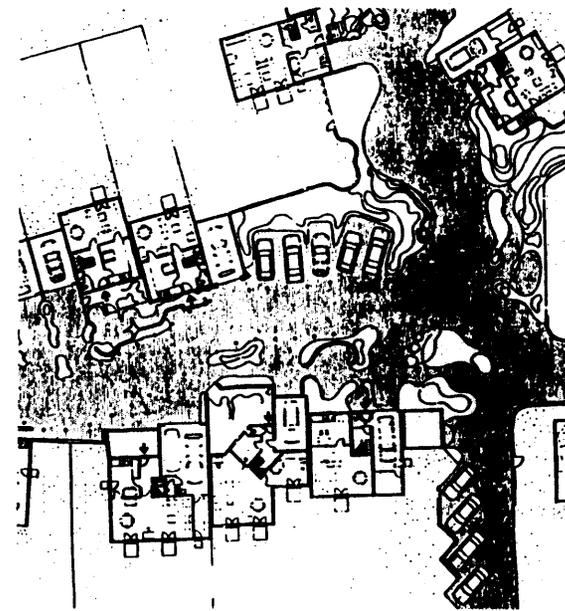
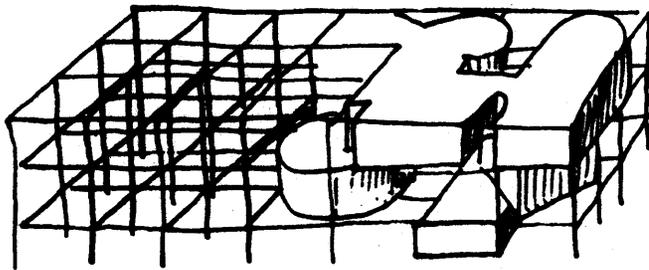


Figure 44, Vignes Blanches, plan.

future user into an idealized or averaged model, to which no individual actually conforms. Hence, rather than designing with and for a particular person or group, the modern architect now designs for no-one, and is primarily driven by market forces. Friedman proposes that architects needs to redefine their role, as facilitators of a process wherein people can make choices about their environments directly, by choosing from a menu of possible decisions. The architect's job is to develop this "repertoire" according to scientific principles, taking account of the consequences in terms of light, space, privacy, and so forth, and also to develop the physical framework in which the user can deploy the "repertoire" that they choose.

The problems with this idea stem from its basically individualistic orientation, and the lack of recognition of the relationship of the physical support structure to use and meaning, as discussed above. Like John Habraken's idea of "supports," this proposed structure is intended to be neutral, however both ideas propose physical arrays of material that on the one hand reinforce the norms of social structure by taking the individual or family as the base unit, and on the other hand do not actively offer the user a variety of capacities for interpretation or reuse because they seek only to disappear into the background.

Unfortunately, exactly the opposite effect is more likely: that the overall effect of the support framework will be the dominant characteristic of this kind of development. That is because they do not propose to work within a changing and truly collaborative community, wherein physical definitions at all sizes are subject to experimentation, adaptation and multiple interpretations and reuse. Rather, what



*Figure 45, "arbitrarily chosen apartment forms within neutral framework."*

Friedman (and Habraken to a lesser extent) proposes is essentially a cage with multiple compartments. Despite his acute analysis of the problems with the practice of architecture, Friedman has not moved very far from the idea of the architect as a kind of "philosopher king."

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<sup>1</sup> This second point raises the task of describing in what specific ways were the various religious, military, or ethnic groups setting themselves off from one another at specific times over this period, and in what ways was this expressed in architecture. This question could be pursued fruitfully by looking at the very interesting examples of buildings that were fortified or had a fortified aspect, and were also religious, such as the fort-monasteries, or the fortified Gothic cathedrals. Examples include: the Great Mosque of Cordoba, the Cathedral of Avila, the Se of Evora, the Monastery-Fortresses of the orders of Calatrava and the Templars, and many others.

For a discussion of the perpetuation of the scourge image of Islam in medieval Spain see Kenneth Baxter Wolf, Conquerors and Chroniclers of Early Medieval Spain, Translated Texts for Historians Series, Liverpool, Liverpool U. Press, 1990.

<sup>2</sup> Zozaya, p. 63.

<sup>3</sup> Zozaya, p. 66.

<sup>4</sup> Zozaya, p. 64.

<sup>5</sup> O'Callaghan p.426.

<sup>6</sup> Jerrilynn Dodds, personal communication, January, 1993, and also personal observation of the site, July, 1992.

<sup>7</sup> War itself can be thought of as a shared culture, which tends to push otherwise dissimilar societies together into a "culture of conflict." Patterns of life and organization are often similar, due to copied or exchanged military techniques. Despite their differences, separate cultures, by engaging in war use one essentially similar methodology -- trying to outdo each other in acts of warfare.

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- 8 See Amos Rapoport, "On the Cultural Responsiveness of Architecture," in The Journal of Architectural Education, Vol. 41, No. 1, Fall, 1987, for a discussion of these issues, and their relevance to design.
- 9 Dodds,
- 10 Fuentes, p. 260.
- 11 "Discord Over Harmony in Architecture: The Eisenman/Alexander Debate", HGSD News (Harvard University Graduate School of Design, Cambridge), Vol.\_\_\_\_, No. \_\_\_\_, \_\_/\_\_/\_\_, pp. 12-\_\_.
- 12 See Edmund Leach's book Political Systems of Highland Burma for a discussion of this type of process over time.
- 13 Murphy, Dialectica, p. 114.
- 14 Murphy, Dialectica, p 241.
- 15 Murphy, Dialectica, p. 229.
- 16 Lynch, Managing, p. 114.
- 17 Lynch, Managing, p. 115.
- 18 Lynch, Managing, p. 14
- 19 Lynch, Managing, p. 23.
- 20 Goffman, Frame Analysis
- 21 Mouldon, p. 5.
- 22 Mouldon, p. 30.
- 23 Mouldon, p. 331.
- 24 Mouldon, p. 334.

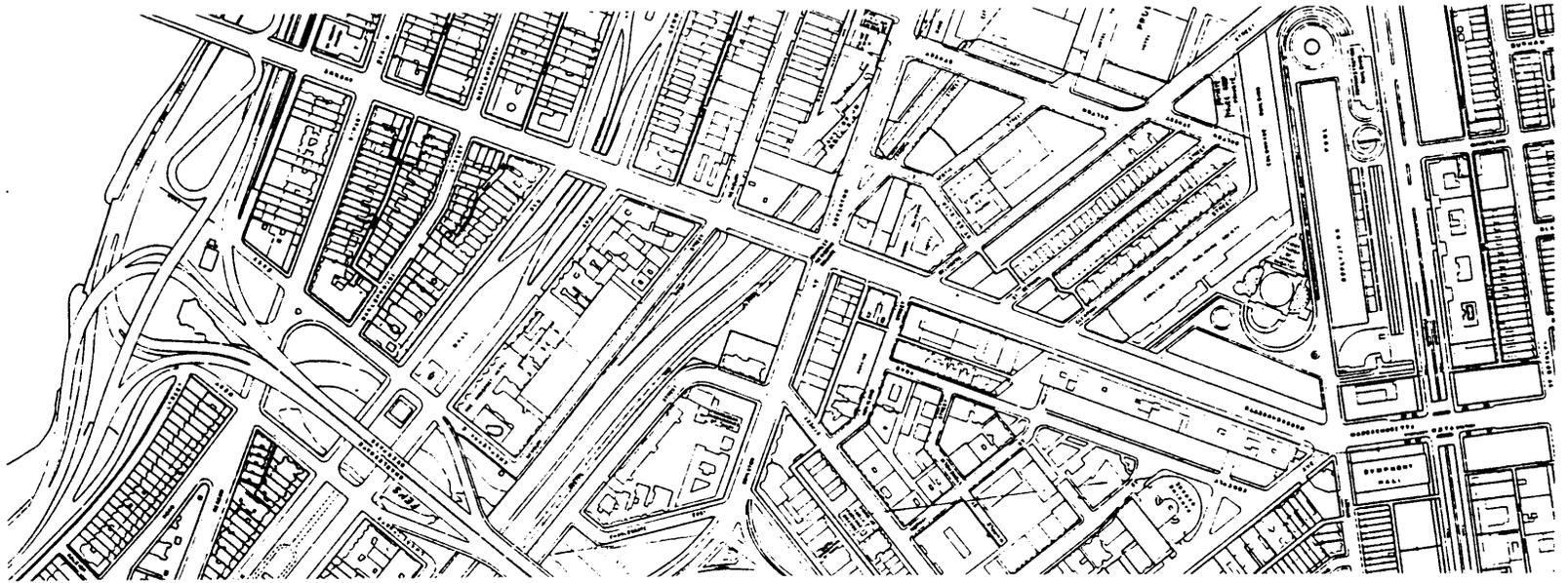
## CHAPTER 4

# AN ARCHITECTURAL VOCABULARY WITH HIGH USE-CAPACITIES FOR COLLABORATIVE PROCESS

### 1. AN APPROPRIATE SITE FOR URBAN COLLABORATION

The zone of Mass. Ave. is an appropriate context for developing a zone for community action, a counter-weight in the city to the corporate-governmental energy of downtown. Currently there is a lack of community action and identification along the Mass. Ave. spine, which travels through four diverse neighborhoods, ranging across the class and racial spectrum, and with just as wide a range of physical

*Following pages: Figure 46, site plan, Massachusetts Ave.*





conditions. There is a potential for interconnectedness that is unfulfilled. The suggested response is a built action that necessitates a response by the "community" of Mass. Ave. -- something that takes the entire street as its site.

The underlying objection to a "normal" urban planning solution, however, is the awareness that new and improved public space is not enough of a proposition by itself. Because of a lack of community in Boston across racial and economic lines it is hard to imagine that new public space would actually encourage the taking of responsibility for others that is the central ideal of community. This is why an armature for social interaction in terms of the shared built environment is proposed: so that a fractured community can jointly participate in the development of the urban environment.

### **Mass. Ave. and the growth of Boston**

The city of Boston, and in particular the area around Mass. Ave., was shaped by two types of historical force. One was topographical, the shaping of the land through great landfill and transportation infrastructure projects in the 19th Century, and the exploitation of the new land through megastructural real-estate development projects. The other force at work was social, having to do with the changing population and the history of immigration and migration of various class and ethnic groups in the city. Both of these histories are addressed at length in Walter Muir Whitehill's book, A Topographical History of Boston, and elsewhere, but three points are of particular relevance.

### *Topographical*

The landfills that took place in the 19th Century radically altered the geography of the city, turning what was almost an island, connected by an isthmus on which ran Washington St., into a continuation of the regional land mass. This land-filling was carried out incrementally, moving laterally from Washington St. into the Charles River Basin. The actual filling was preceded, however, by the crossing of the basin by a number of linear land bridges, carrying railroad beds or roads. Thus the major network was laid in, including what is now Columbus Ave, Beacon St., and the Mass. Turnpike, and then the new neighborhood were filled in to these new edges, South to North. The South End was first, then what is now the Prudential area, then the Back Bay. The Back Bay was filled incrementally itself, moving from Charles St. westwards to Mass. Ave. (already in place as a connector to the North) over only twenty years. The building development of the Back Bay proceeded as the land was filled.

Both the South End fabric and the Back Bay fabric were the result of much study of different possible typologies. In the end, each neighborhood has a similar brick row-house solution with the following differences: the layout of the blocks in terms of the street hierarchy; the greater width of the South End blocks, which incorporate a large central access court with private yards, and have four street-facing sides rather than two; and the slightly more generous typical lot size in the Back Bay (22-30 feet as opposed to 18-25 feet). There are many more subtle differences, such as a different strategy for the corners. But both

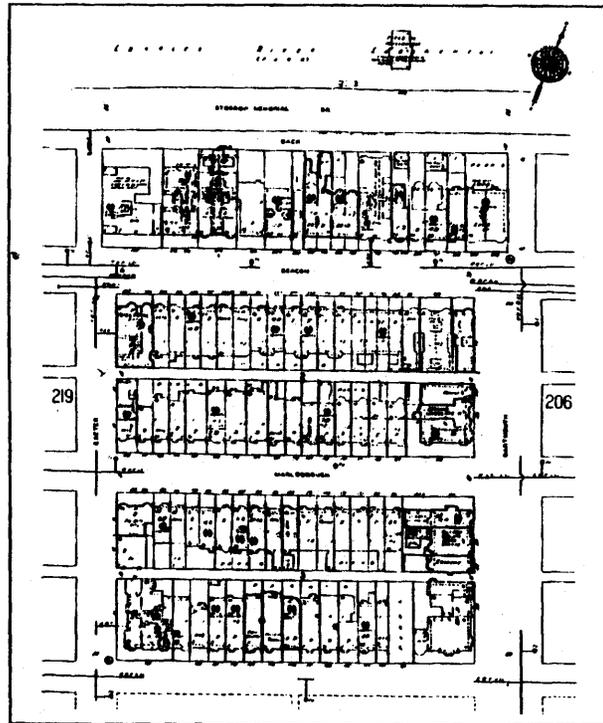


The Back Bay in 1836

Figure 47.

solutions were megastructural solutions, as mentioned in Chapter 1, in that the utilities were first laid in as a system, followed by the buildings, according to a set of dimensional development rules.

The overall layout of the new neighborhoods had the effect of strengthening the dominant directional field for the city, introducing a series of basically East-West primary streets, oriented parallel with the river -- the largest geographical force next to the ocean shoreline. It is this system of streets, and their relationship to the river, and the secondary streets perpendicular to the river, that establish one's sense of geographical orientation in this part of the city.



The other effect of the landfills was a gradual reduction of the relative land values along the former isthmus of Washington St., an in the South End, as the high real estate value tended to move with the river edge as the river became exploited as an amenity for the city, culminating with Olmsted's park system. This general trend is dramatic, as Washington St., once the commercial spine of the city, is now reduced to being an underused and nearly desolate connector street between Roxbury and downtown. The corner of Washington and Mass. Ave. presents itself as a location with historical importance and geographical potential, but in need of help.

### *Social*

The dynamics of ethnic and class populations and geographical neighborhoods in Boston have been marked by rapid change. Parts of Dorchester, for example, went from predominantly Jewish to Irish to Black in under thirty years. At the same time, Boston is noted for the

strong sense of neighborhood identity of its people, sometimes verging on xenophobia. The positions taken by various advocates on the question of breaking or even bridging these neighborhood barriers are diverse. Many see gentrification as a potential threat of displacement of poor people. Some would argue for strengthening rather than weakening the cultural "character" of a neighborhood, as was the case with the Villa Victoria project, a Community Development housing project that successfully transplanted an urban plaza from Latin America to a Latino neighborhood in the South End. Some argue for enclaves in which people can look out for themselves, others for greater integration and interaction of forces on the largest urban size. Can collaboration and responsibility be instigated across these community boundaries by architectural experimentation in a trans-community zone?

### The Built Fabric on Massachusetts Avenue

The strengths of this predominantly 19th Century brick row-house fabric are some degree of variability in the inhabitable territories in the back alleys, some degree of variability of decorative detailing, the building of the street-edge with stoops offering some degree of exchange between public and private and the possibility of greater intensity (as on Newbury St.), and the protection of semi-private space in the rear offered by the continuous privacy wall formed by the row-houses.

Some of these same strengths also contribute to difficulties for the community life, however. These weaknesses of the system have been

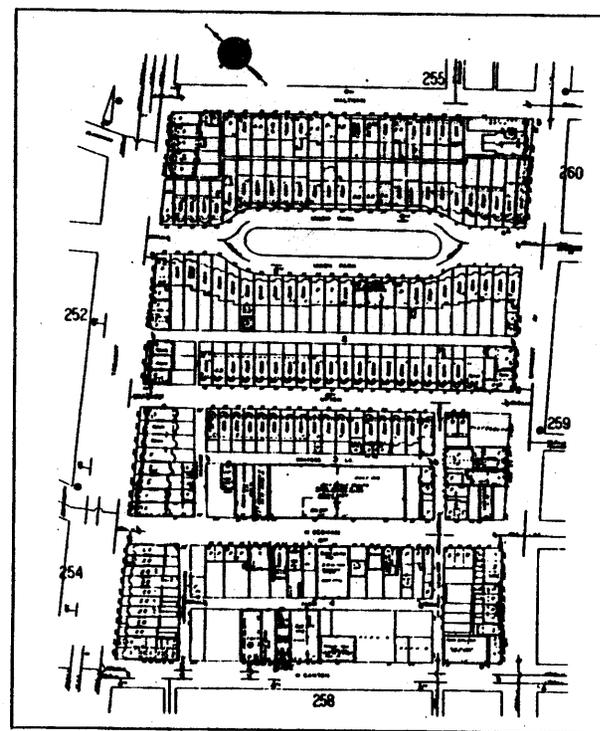
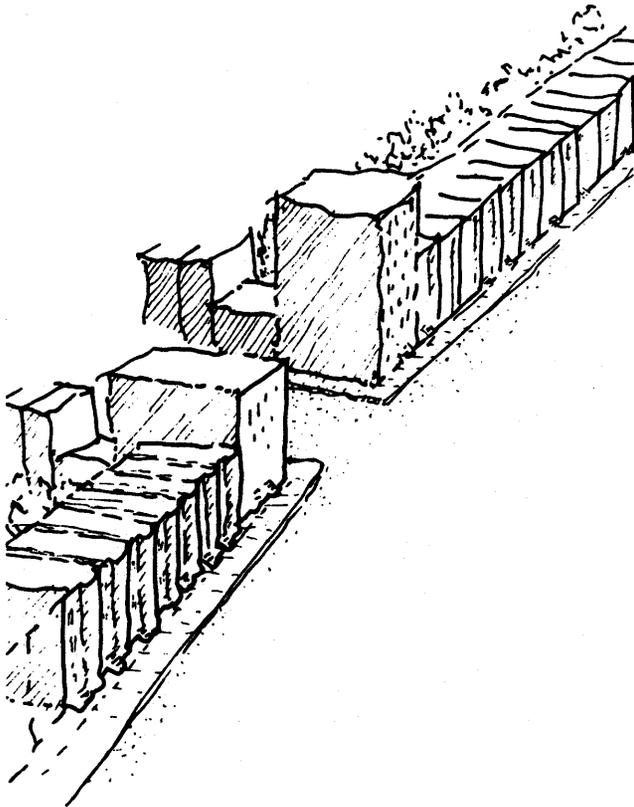


Figure 48, facing page: Back Bay; this page: South End



*Figure 49, urban-scale privacy wall.*

discussed in Chapter One. Foremost is the limitation on the variability and self-definition of space for the residents, as evidenced by the prevailing norms or expectations of "interior design," "remodelling," and "in-fill." None of these options challenge the normative system, and certainly do not usually allow the individual to explore significant alterations even at the size of the apartment. People don't think that they can do much because they are prohibited by rules, regulations, taboos, expense, and tradition. Even painting interior walls in colors is usually forbidden by landlords.

The following are some norms that are currently maintained: the cellular subdivisions as opposed to optional privacy separations; the lack of built continuity in the public space; the lack of easy access to the back alley landscape for the non-residents from the street; the unresolved meeting of the 19th C. residential fabric with the powerful new public forces of Mass. Ave.; and the non-recognition in the built fabric of the larger sized urban forces of the radial streets.

In this Century the Avenue has been disrupted in a number of places by new buildings that offer the following even more detrimental qualities: no variability at all, no individual space definition at all, and no collaborative space accessible from the street. Moreover, all of the corners of the new buildings are closed to the radial cross-street, negating their potential relationship to the largest urban directional forces in the urban fabric.

*Public vs. private: competing interests?*

The example of Newbury St. in Boston illustrates a public space in a related 19th Century built fabric which accommodates personal (mercantile) expression on a small scale within a "democratic" space allocation -- similar-sized spaces with allowable overlaps. Access is maintained through a variable public-private edge. Of course the law of the marketplace encourages this kind of development, where individual shop-owners both desire to entice people into their space, at the same time as the desire to maintain control over it. Similar use relationships and capacities are found in Middle Eastern Bazaars, within a more intensely built environment. Additionally, a mixed-use zone like Newbury St. has many types of inhabitation at all hours of the day and night, from shopping and working to sleeping and eating. This intensifies the need for multiple options of inhabitation of the architecture and also gives the most life to the street at all hours.

One of the key issues in any discussion of public through-space in close association with private space is how to define and protect the privacies adjacent to it. The primary considerations are the way in which access is built into the system, taking into account the use-capacities of the built fabric to support extension of the public space, and the culture of the inhabitants, what are their needs and understandings regarding the definitions of private space. These can vary widely through different culture, so it is important to build physical forms that can carry the burden of their intentions through a wide variety of possible cultural interpretations.

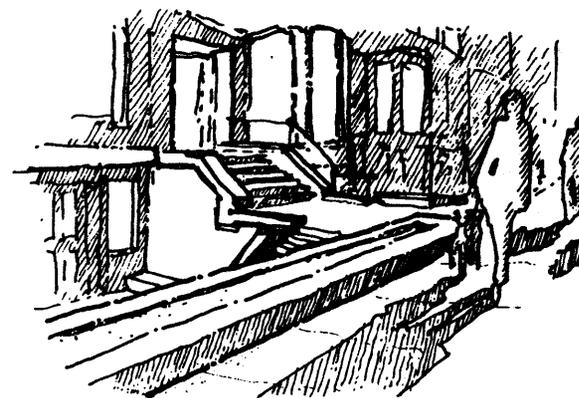
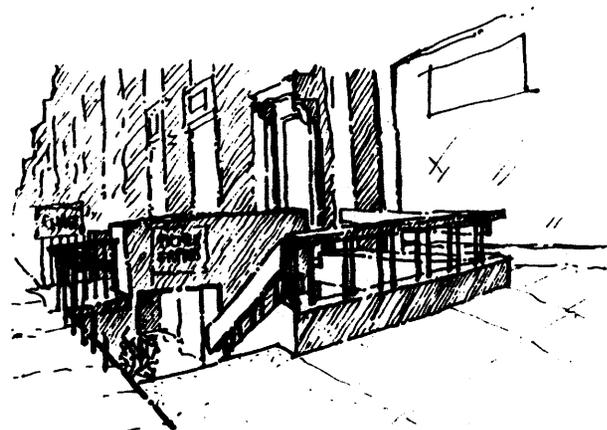


Figure 50, top and bottom: Newbury Street.

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*Figure 51, sticker distributed by artists in Paris for placement on subway seats and park benches, etc. "This seat reserved for the homeless."*

The kind of incentive-based system such as that found in mercantile bazaars like Newbury St. is a model for development of active street edges. In this example, the incentives are manifest in the physical form of the street edge. A widened sidewalk, available to merchants for semi-private use, including sectional development, with some requirements about through access along the edge, maintenance, and rights of the individual pedestrian, is one example of such an incentive. This kind of process can be tried out in various ways in publicly-owned space, to experiment with street-form.

There should be rules and disincentives to protect the rights of weaker parties. Communal action needs to be weighed against privacy grabs, which can be as potent when made by a communal action as by an individual. Yet, much of this process of friction and negotiation could take place over time and within the context of the built environment. Arguably, this is already the case, yet the proposal here is for an architecture that can actively instigate and support this process, rather than simple being the unintended impetus, uninvolved witness, and unwitting victim of it.

#### Mass. Ave. as a public place

Mass. Ave. is a well travelled street, being a link between communities to the North and South of the city, as well as a commercial center of its adjacent neighborhoods. There is, however, an uneven distribution of public space and public amenities along Mass. Ave. Most of these are North of Huntington Ave., and connected with the

wealthier end of the spine. The radial streets that bisect it also connect communities, and are additionally strengthened in this capacity by mass transit lines. Mass. Ave. itself is only serviced by bus.

The sporadic proposals since the 1930's for an inner ring transportation system, whether for cars or public transit, would possibly alleviate some of the automobile pressure on Mass. Ave. Alternatively, Mass. Ave. could be seen as an inner spur of the inner ring. In this case, the neighborhoods adjacent will probably want to be protected in some way from the increased traffic and commerce on the Avenue.

One concern will be the negotiation of the exchange between these neighborhoods and the busy avenue. Some system of gateways may arise, within a hierarchical system of urban organization. With active participation of the residents and users of the Avenue this hierarchy may be strengthened in a responsive way.

#### Mass. Ave. as a boundary

The street is the primary physical boundary between the Back Bay, The South End, Roxbury, and The Fenway, in the North-South direction. It is the largest and busiest cross-town street. Although this boundary function is not as strong as many other boundaries in Boston, it is still the strongest built boundary that crosses the radials of the city. As a boundary, it is continuous built form, not as intense as some of the examples cited in Chapter Three, but highly recognizable, due to its width, the size and type of its buildings, certain details such as the

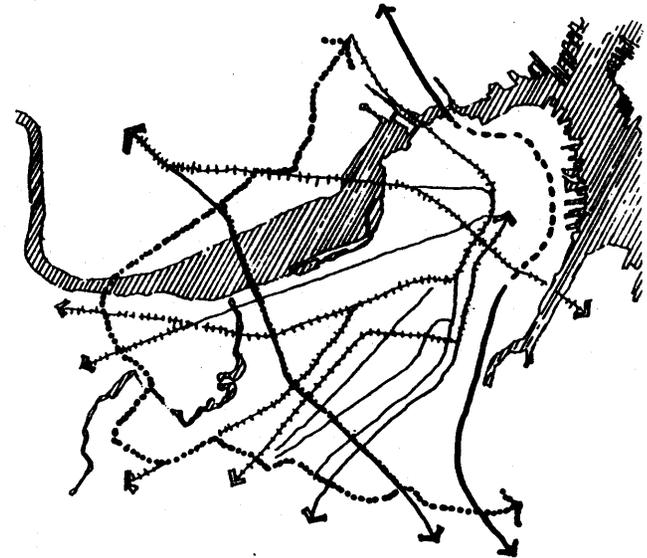
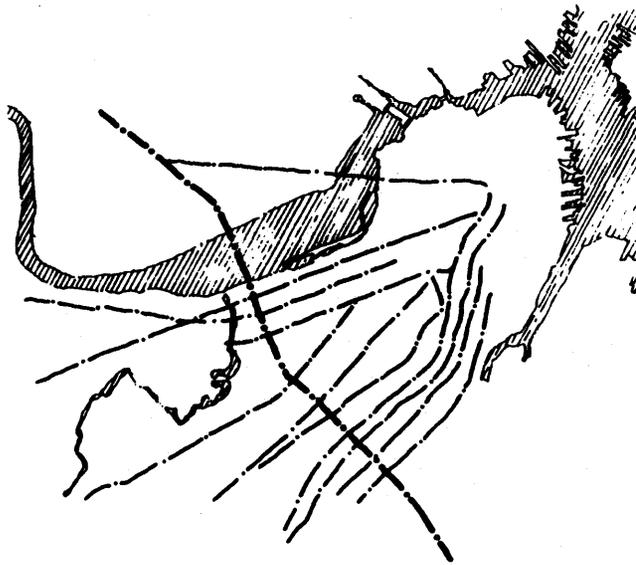


Figure 52, transportation system, showing proposed "Inner Ring," with Mass. Ave as an inner link

recurrence of traffic islands, the fact that it continues through three different grids, its regional connectedness, and the amount of traffic.

Kevin Lynch notes, "There are transitions from one territory to another, and these transitional areas are often the most interesting places to be in, as any door leaver will testify."<sup>1</sup> Heightened feelings of awareness, such as those in transitional areas, or in the face of art, are related to the confrontation with the dialectical nature of reality. The stimulus to the mind and body is a quickening of our essentially human activity of comprehension, which is demanded of us when our "frameworks" are challenged by realities that don't quite fit.<sup>2</sup> The existing boundaries of Mass. Ave. require new elements that capture the action of changing frameworks directly, rather than trying to frame the reality that is already there.

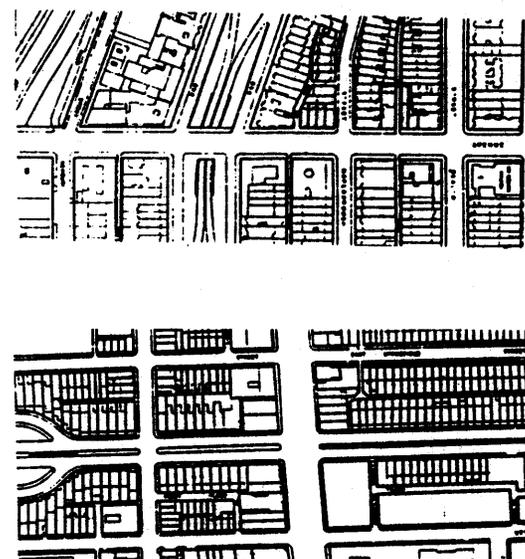
The impermeable qualities of the boundary are currently over-strong in the South End section of the street due to the orientation of the blocks in the long direction along it. More access through the blocks, at least for pedestrians, is needed here to reinforce the experience of the major radial direction, and its interaction with the avenue, and also to provide displacements to allow for a greater variety of uses and micro-environments. The current sharp differentiation of public and private space limits the public zone to the sidewalk. This continuous four to eight story private building wall on either side of Mass. Ave. is comparable to medieval walls in terms of its impact on the individual experience of the adjacent space. The problem is how to soften and dissolve these walls, to varying degrees depending upon the level of privacy desired by the inhabitants and the users of the street.



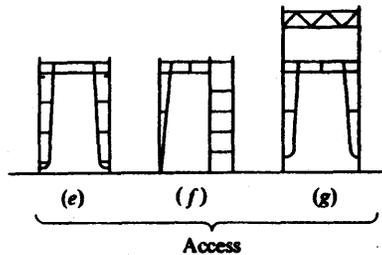
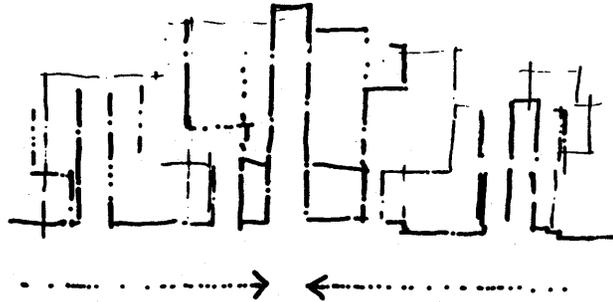
*Figure 53, Mass. Ave is the major cross-radial boundary street, against the primary direction in the city.*

In the Back Bay section, on the other hand, the situation is reversed and some access, at least automobile access, could be blocked off. This would enhance the continuity of the street in this case, and also increase the protection of the residential areas from the auto traffic effects of Mass. Ave. while still providing displacements and variety of access to pedestrians.

The street is highly uninhabitable at the major urban crossing points, where one would think public gateways, and hence collective areas, in the boundary would most naturally occur. In this way it differs radically from the analogy of the medieval wall, which is most public at the gates. The conditions which disrupt these places are the following: an extra-wide traffic crossing, or a difficult pedestrian crossing due to a large physical action of a road, railway, or structure perpendicular to the street; the presence of the large, perpendicular structure or space which is uninhabitable from the street, for example, a boat section of a depressed road or railway, a large raised lawn, a non-accessible structure over, an extra-wide cross street, or some kind of bridge. However, all of these are actual, former, or potential (with the Inner Ring Proposal) sites of mass-transit connection points or stations, and bus stops, and so present additional use-qualities to support a zone of urban exchange (similar to the way bus stops in walled cities are located at the gates.)



*Figure 54, grid-street interface in Back Bay (top) and South End.*



### Specific needs, specific places

In its current state the continuity of the experience of the street as a public place and as a boundary zone is disrupted at the aforementioned five or six points, which all share certain physical attributes: Storrow Drive, Boylston Street/Mass Pike Overpass, Christian Science Center Plaza, Huntington Ave, the Southwest Corridor, Washington Street, and City Hospital.

This proposal seeks to inhabit the boundary of Mass. Ave at these points; to enhance the urban continuity; and to allow the street to become stronger both as a zone of exchange and as a public connection through the four neighborhoods. One architectural proposal is to use the generic language of an inhabitable boundary, which would be developed differently in each different location. An inhabitable boundary, as established in Chapter Three, is a physical definition of a territorial zone of exchange, implying some spatial and visual continuity as well as demarcation of edges or thresholds. But this would only be realized in a culturally relevant way through experiments with an architectural vocabulary that engages the specific qualities of each place and the culture of the inhabitants.

*Top: Figure 55, built threshold/inhabitable boundary.*

*Bottom: Figure 56, scaffolding units.*

## 2. INTEGRATION OF THE VOCABULARIES OF FORM AND PROCESS -- PIECES OF THE PROCESS

"Scaffolding" elements, either standard scaffolding or specially designed elements, can be used in an ongoing dialogue of building experiments, replaced if desired with more permanent materials and structures. Collaborators can build collective mock-ups of walls, even of entire buildings as pavilions in public space (as Camillo Sitte proposed at the turn of the last century.) At the largest size whole urban continuities of buildings and landscapes can be explored by large collective groups. At the smallest size an individual building or even an apartment can be re-configured, using scaffolding to explore new access systems, and new relationships between inside and out, public and private. A range of sizes, uses, and options is possible, ranging from the semi-inhabitable artistic space definitions of an artist like Tadashi Kawamata, to completely inhabited market-structures. A range of designed pieces and a vocabulary of forms with inherent uses will span from the small and inexpensive -- that individuals or groups can use to make mock-ups, temporary structures, or low-cost interventions -- to larger infrastructure pieces that are capital-intensive and are designed to be used as supporting elements for larger-scale collaborations.

The following is an integration of the form and process agendas outlined in Chapter One with this range and vocabulary.

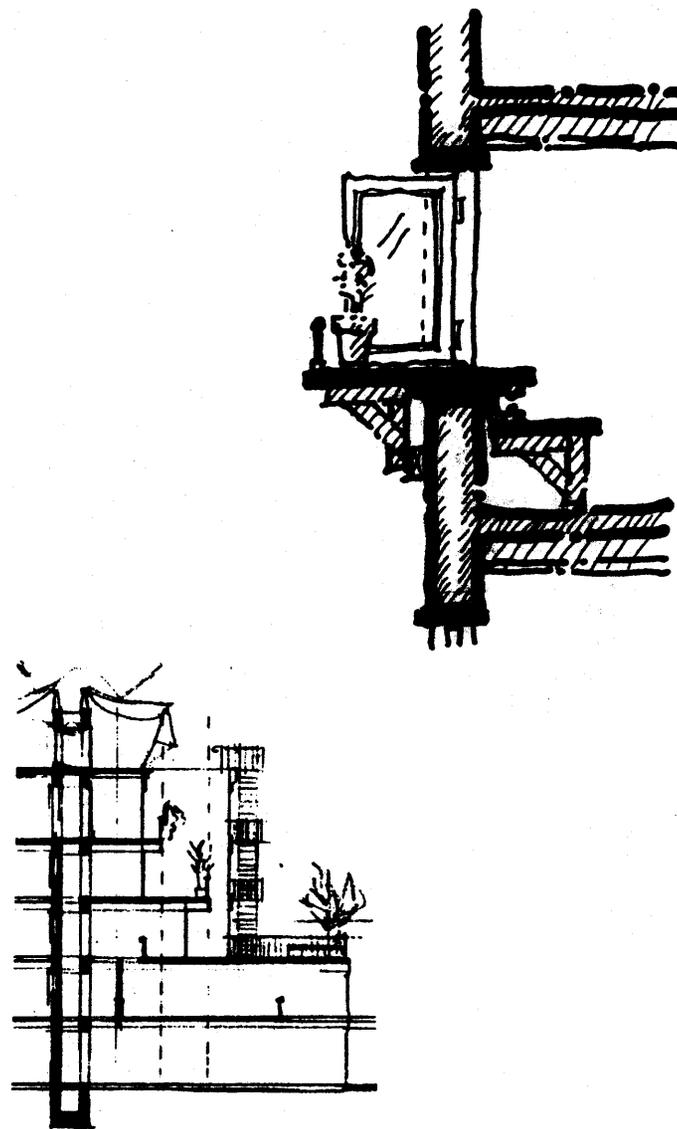


Figure 56. smallest inhabitable size: window-balcony.

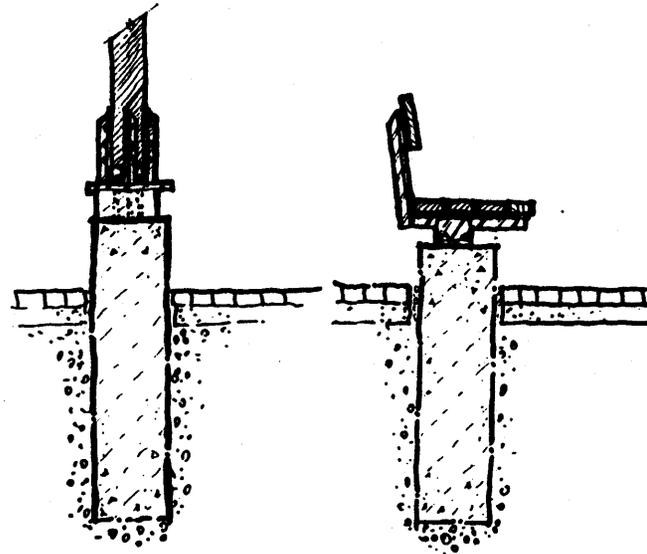
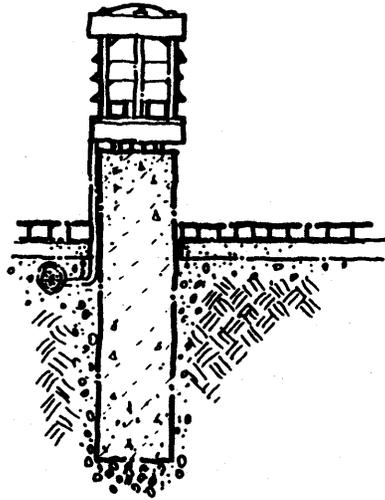


Figure 57, foundation/bollards.minimal landscape-transformation with multiple use-capacities.

## A. Build the Public Street (Establish Public Territory).

### *Enhance the Urban continuity*

Build reciprocal use-forms

Make exchanges of public and private space on an urban scale (see Avila city-plan).

Increase the access opportunities of the fabric.

Emphasize the incompleteness of defined public spaces.

Instigate public action across boundaries -- e.g. one option is a continuous deployment of scaffolding, to be then incrementally removed through public discussion/experimentation.

### *Establish a Recognizable zone*

Establish Public Spaces at urban size.

Make claims for the public rights of way.

### *Add to the Public Quality*

Build and experiment with Public Figures -- e.g. Camillo Sitte's suggestion of using temporary pavillions as a "mock-up" for public evaluation.

Develop the public space in relationship with private space attributes, such as: Closure, Completion, Discontinuity

Carry out as much of the process as possible in public space

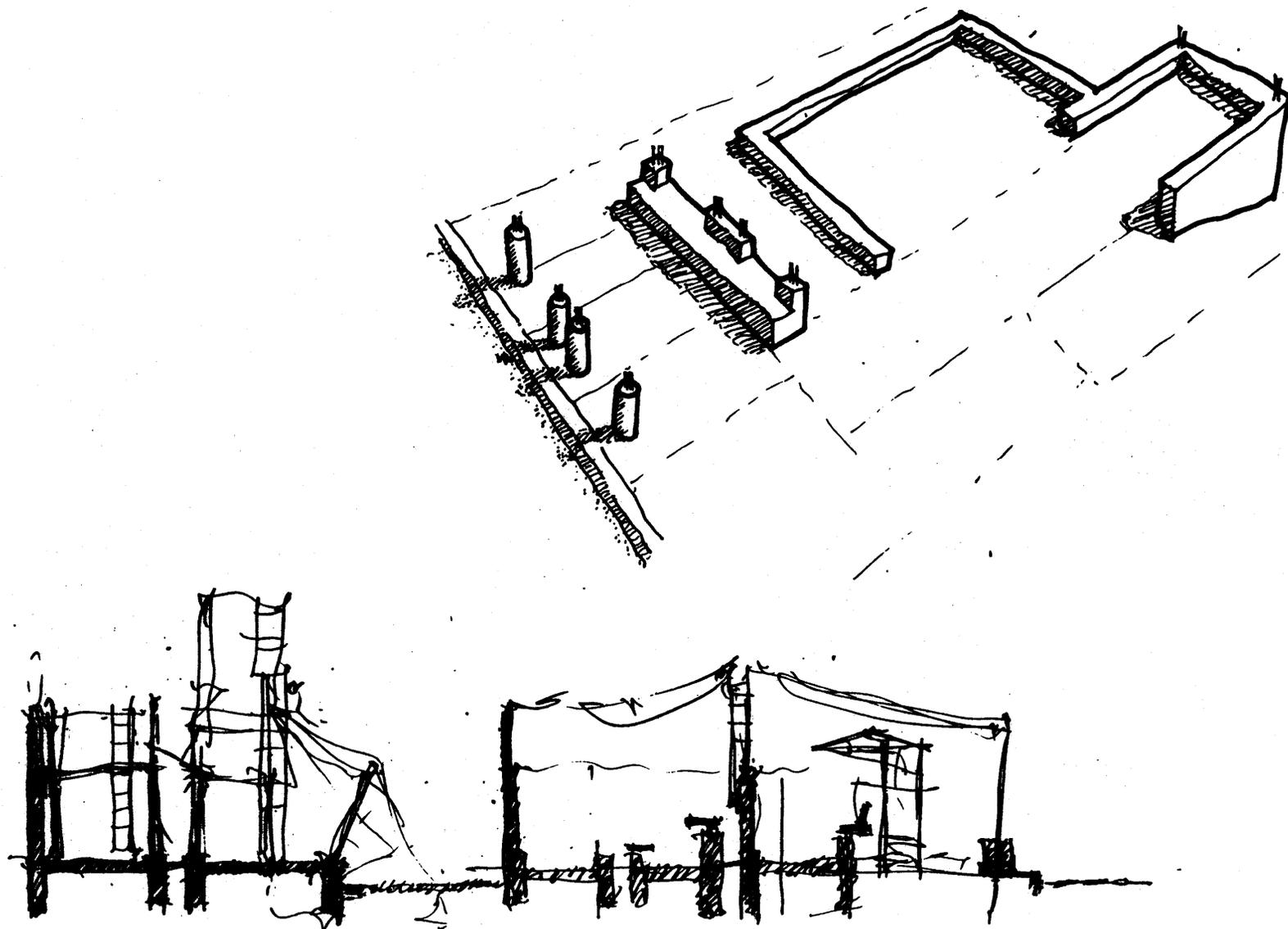
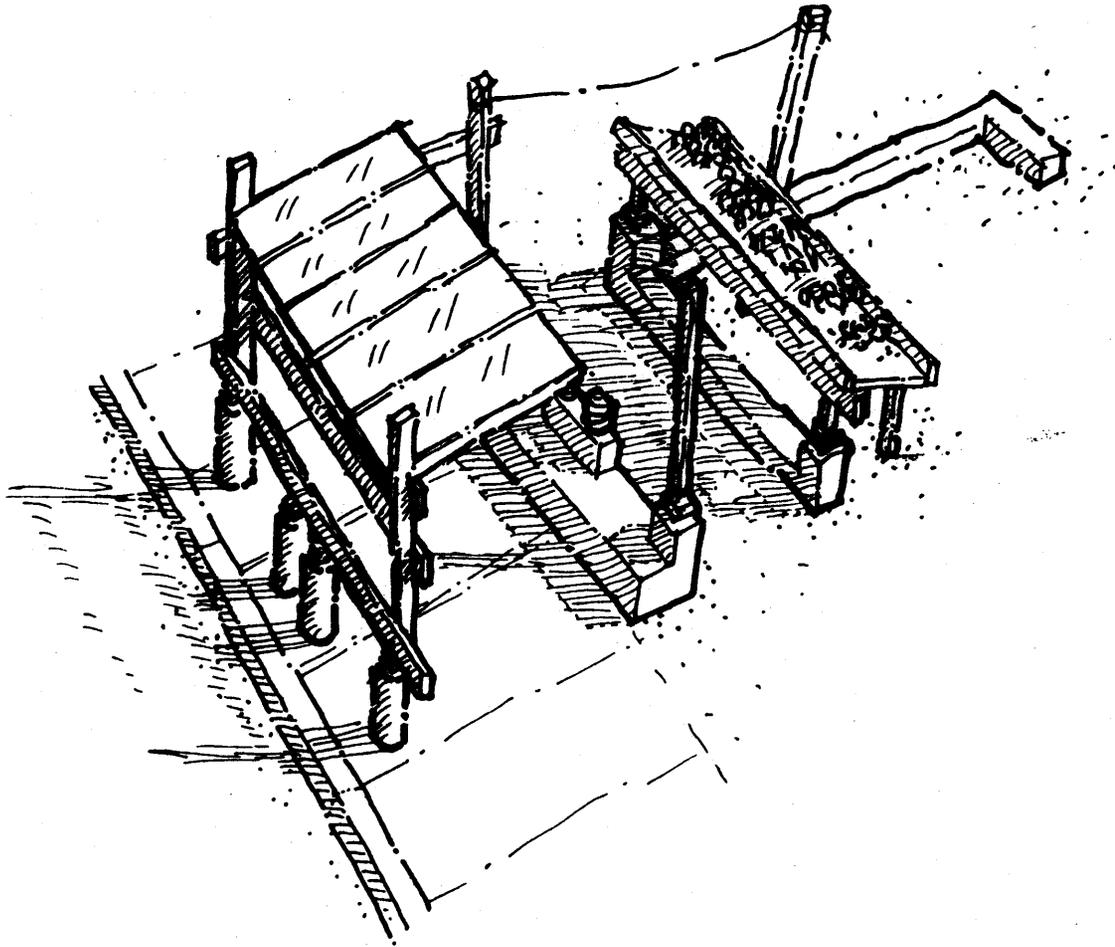
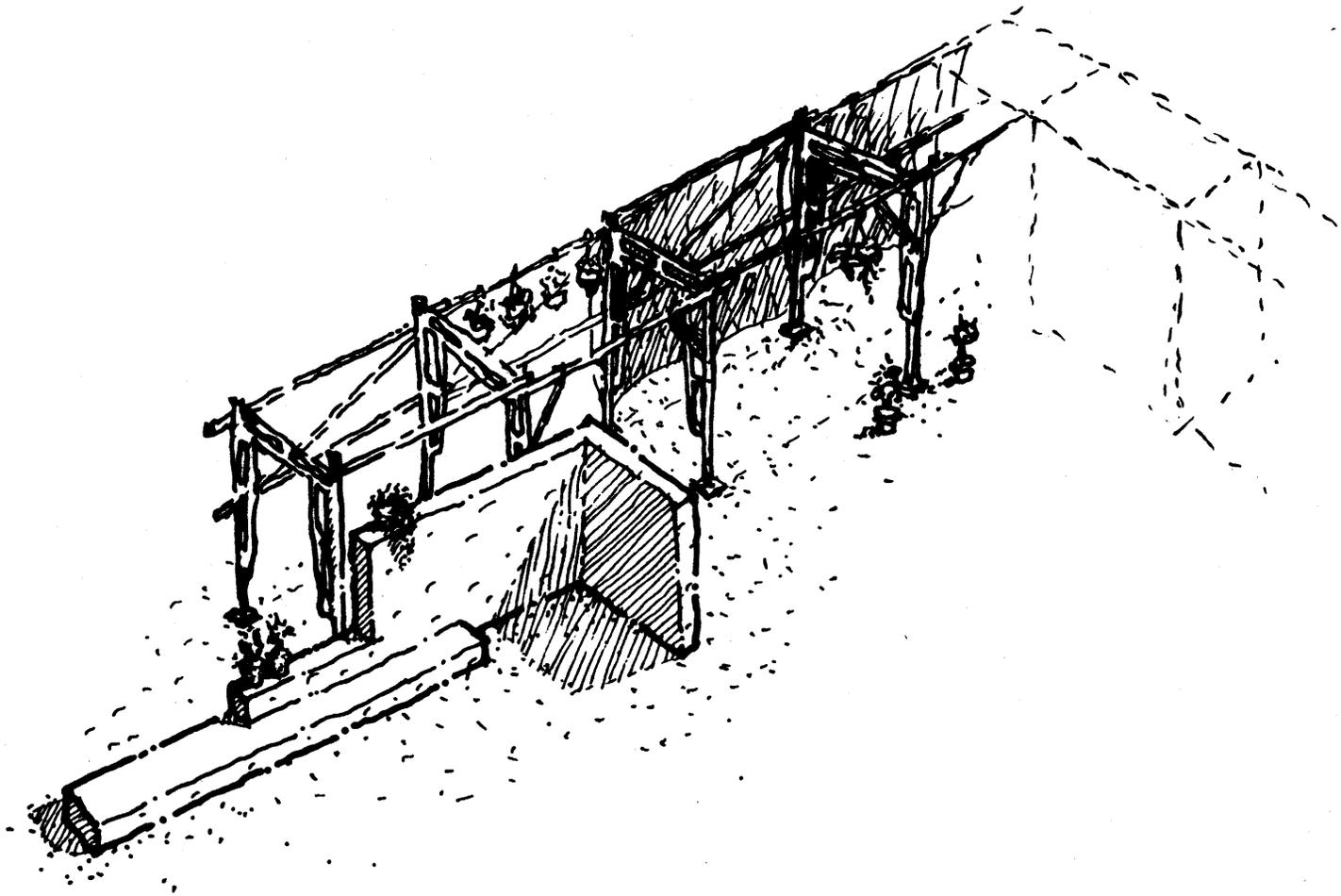


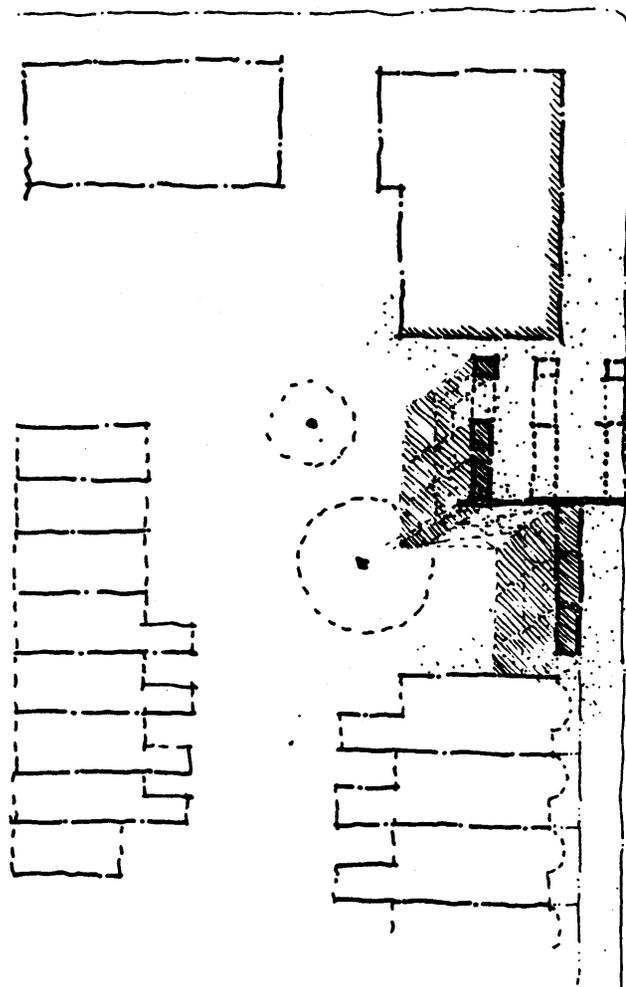
Figure 58, base foundation: building the semi-public use-edge.



*Figure 59, market/bus stop variation.*



*Figure 60, community garden/scaffolding experimental garden walls.*



## B. Make the Street into a Boundary Zone.

### *Make a Liminal Zone*

Demarcate gradual edges

Make multiple Thresholds at public-private edge -- thicken the boundary (in plan and section) for reciprocal use.

Make experimental changes and intensify changeability using "scaffolding."

### *Build a Zone of Exchange*

Build the through access/increase the variety of access.

Develop Gateways and associated Marketplaces.

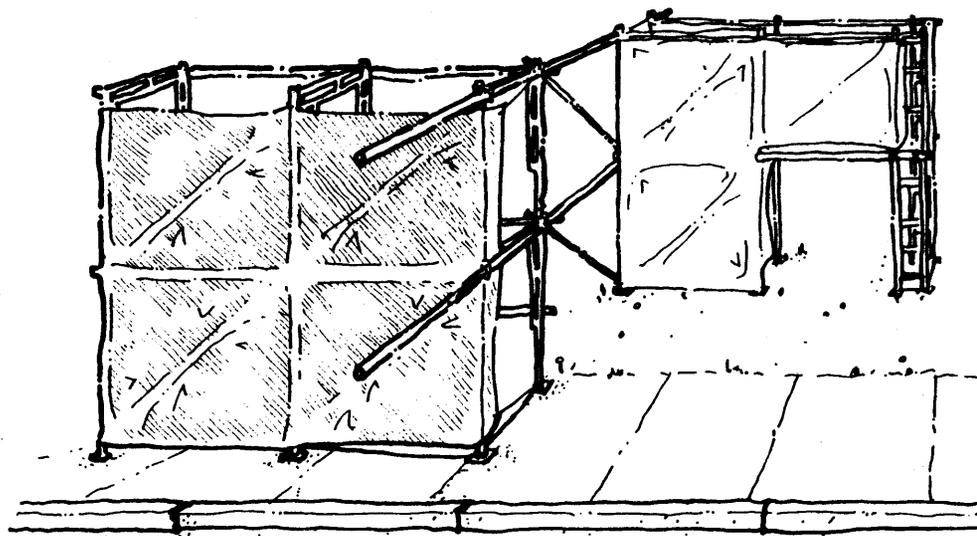
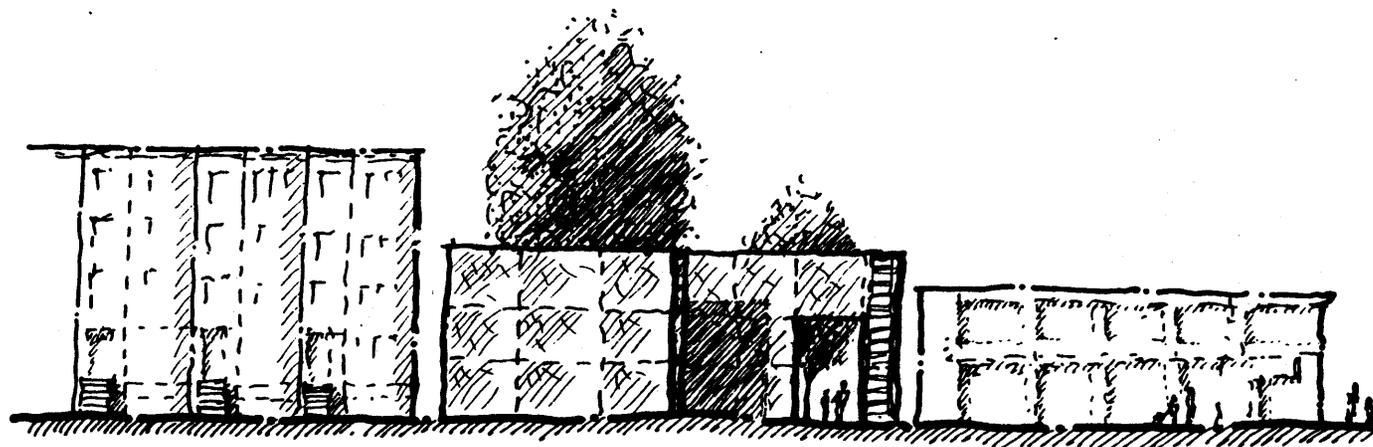
Emphasize recognition and communication, a raised awareness of boundaries.

### *Develop an Inhabitable Boundary Zone*

Use the norm of an Inhabitable Wall/"Thick" wall

Use and inhabit the boundaries in the process.

Figure 61, "displacement wall."



*Figure 62, experimental "displacement wall with gateway." Establishing the protected public space. Testing the public-private edge.*

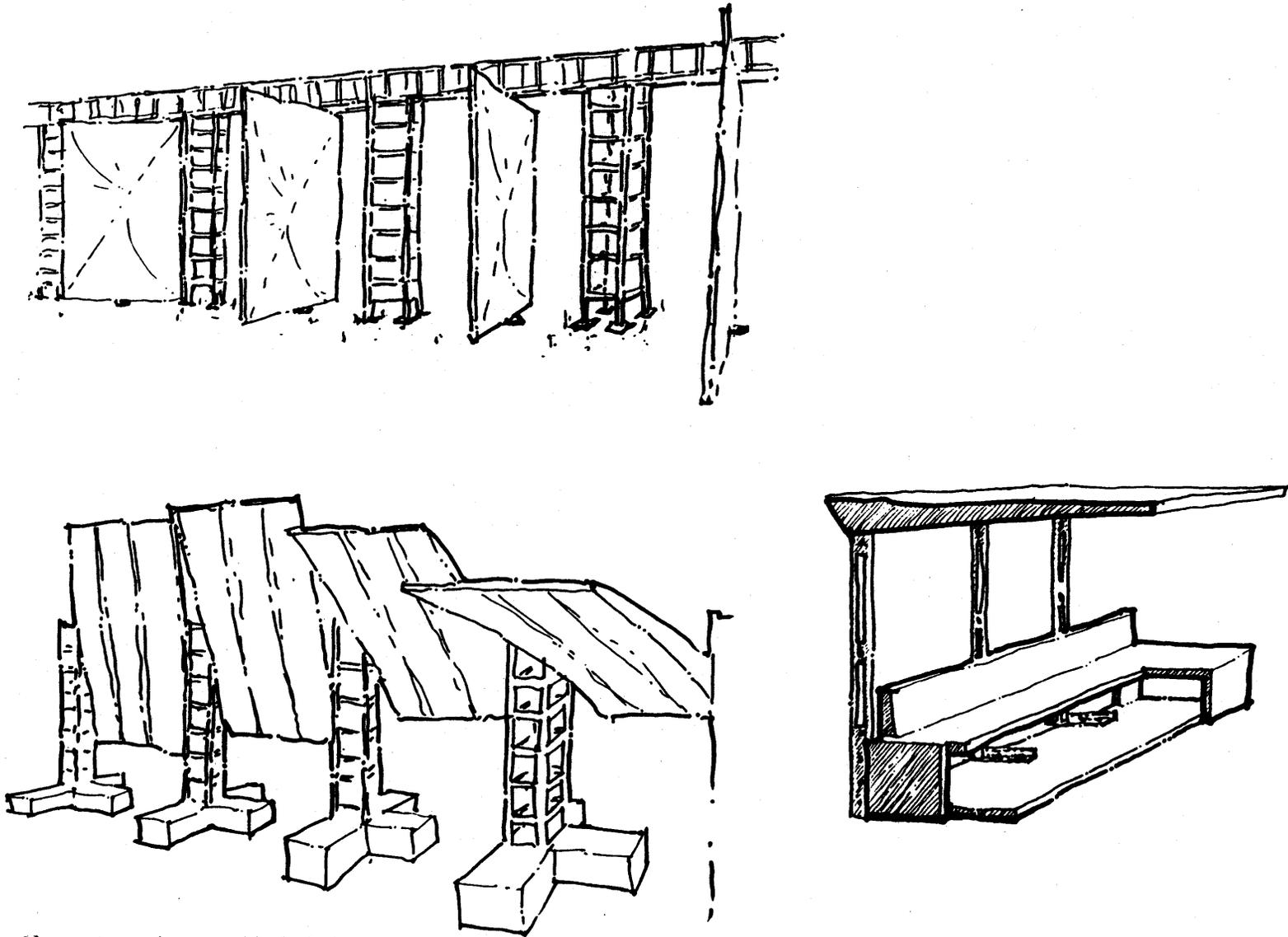


Figure 63, experimental gateway/shade-devices.

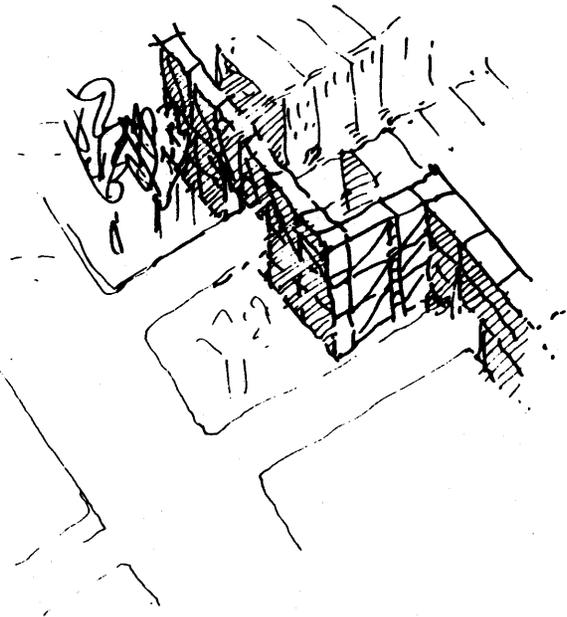
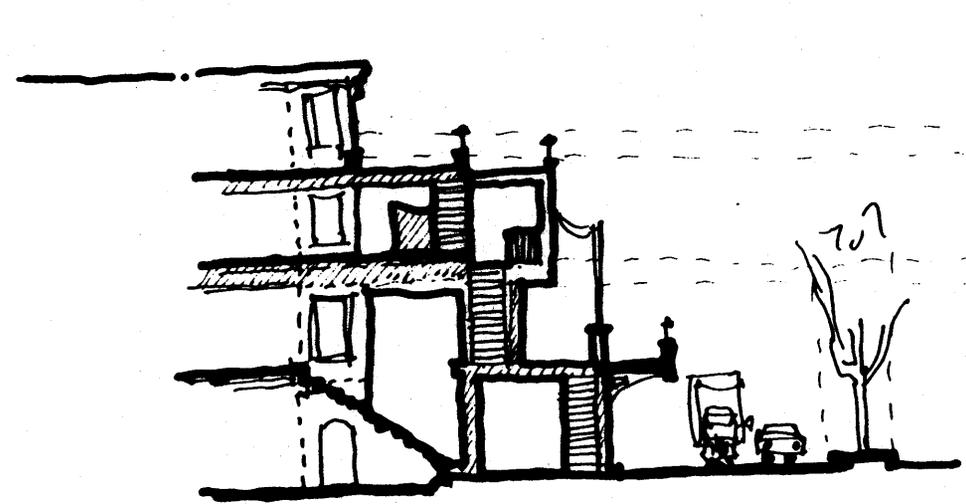
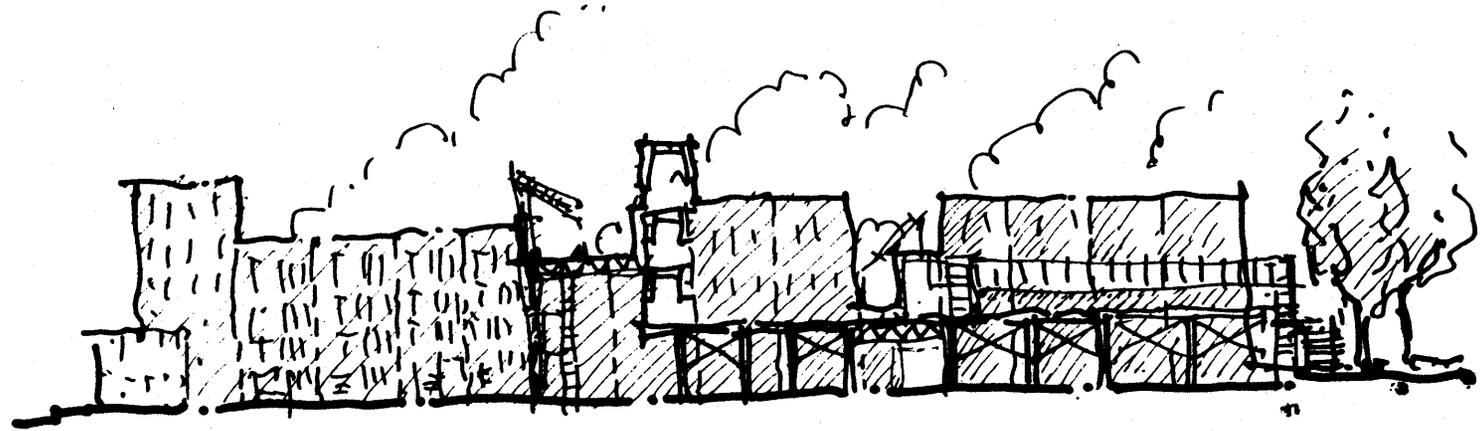
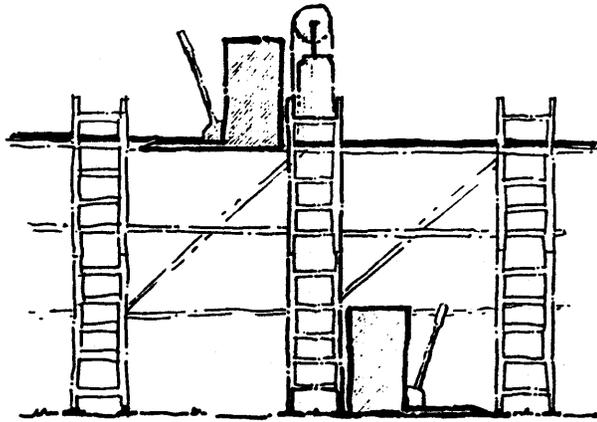


Figure 64, built semi-private communal access above-ground. Balconies and Bridges. Built Continuity.



*Figure 65, counter-balanced human/wheelchair-powered lift for access to above-ground balconies.*

### C. Use the Street as the Site for an Experimental Process.

#### *Demarcate Community Territory (Ritual Space).*

- Define limits of these areas
- Build supports for Process
- Perpetuate the publicness of the process
- Involve Strangers

#### *Make a Place for Collaborative Action.*

- Build Examples -- e.g. Slide-o-rama in scaffolding, and other "virtual" experiments on the real site
- Resolve Problems and conflicts as part of the process -- e.g. Privacy walls, need for respite, shelter.
- Instigate process: organize group collaborations/provocations with proposals in the environment of the collaborations.
- Keep Process Accessible

#### *Maintain the Site in Transformation.*

- Establishing Artifacts of Continuity of Change
- Making precedents/references for collective memory, such as Krzysztof Wodiczko projects, City, Signs and Lights, or Kawamata's projects.
- Develop in-built incentives -- such as the use of the amenity of the street itself.

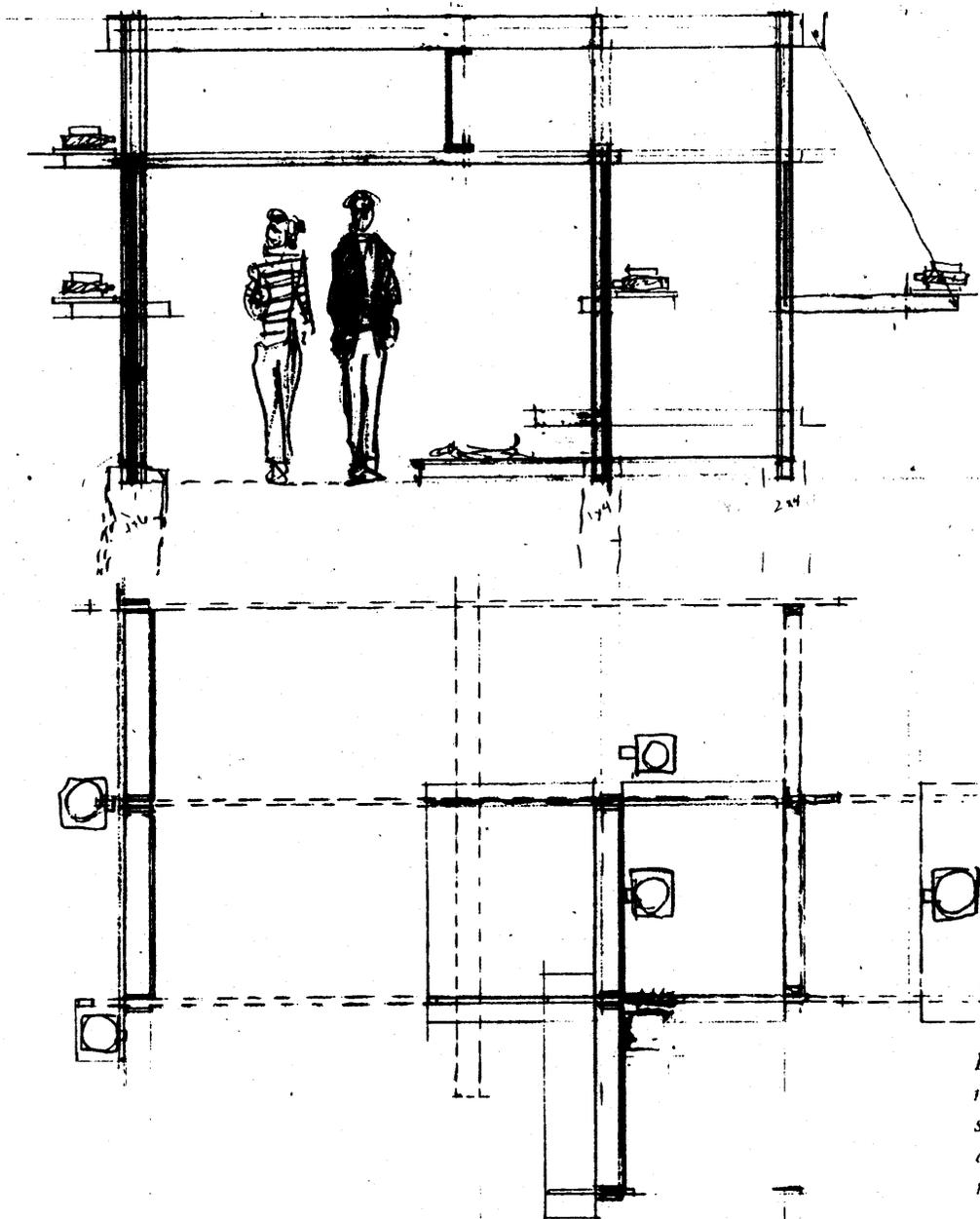


Figure 66, "Slide-o-rana" environmental modeller. Uses multiple projections (including computer generated) in real space of site, transformed with "scaffolding." This allows an interactive experimental process to take place in both real and virtual space simultaneously.

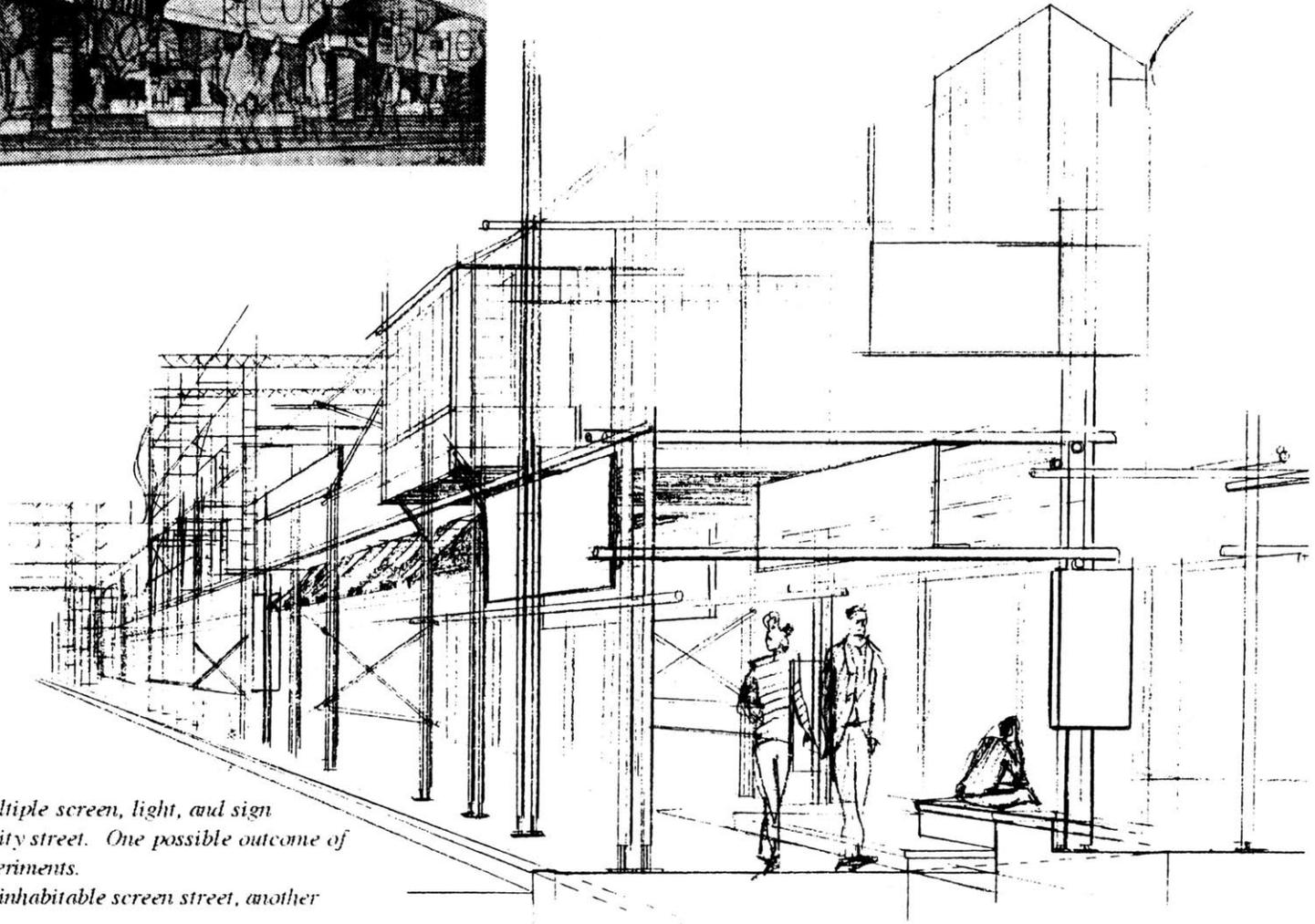


Figure 67, top: Multiple screen, light, and sign environment on a city street. One possible outcome of "Slide-o-rama" experiments.  
 Figure 68, bottom: inhabitable screen street, another possibility.

#### D. Specific Potential Uses and Collaborations

The following can easily be built within the vocabulary just described: benches, bike-racks, homeless vehicles,<sup>3</sup> food-vending/sleeping carts, squatter dwellings/shelters, community gardens and placitas with seating and tables, tent-cities to redefine public development goals, mock-ups of "public figures," fire-escape-type balconies, bus shelters, newsstands, arcades, vending booths, farmers' markets, children's play areas, fountains, street-lighting, pavilions for public exhibitions or governmental functions and amenities, movie theaters, performance spaces, electronic media posts, and so on.

Collaborations can take place using this vocabulary between residents and residents, a single person and their neighbors, between residents of an area and the city at large, between homeless people and residents, between street vendors and other inhabitants of the street, and so on. Over time the people could, given agreement of their neighbors, make their changes more permanent. Grants and low-interest loans could be incorporated into the proposal to level the playing field.

Large expenditures of public capital are necessary for solutions at the large end of the range, e.g.. landscape transformations, large walls with foundations, and supports for built accretions. Equipment, too, relates to size, scaffolding is small but can be built up to large sizes, even spanning. Cranes are large, but relatively cheap for temporary use at large sizes. permanent long spans, over streets, are expensive. Temporary long spans, even with scaffolding, are theoretically possible though technically prohibitive due to safety factors and wind loads.

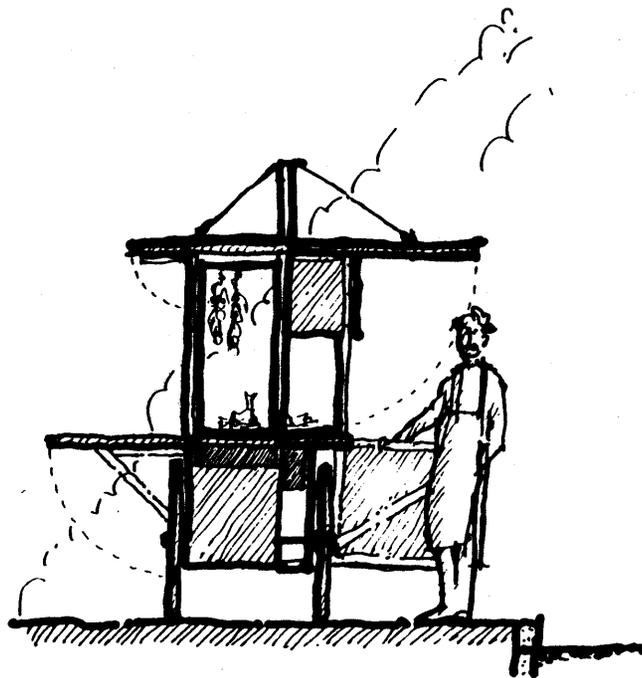


Figure 68. vendor-cart.

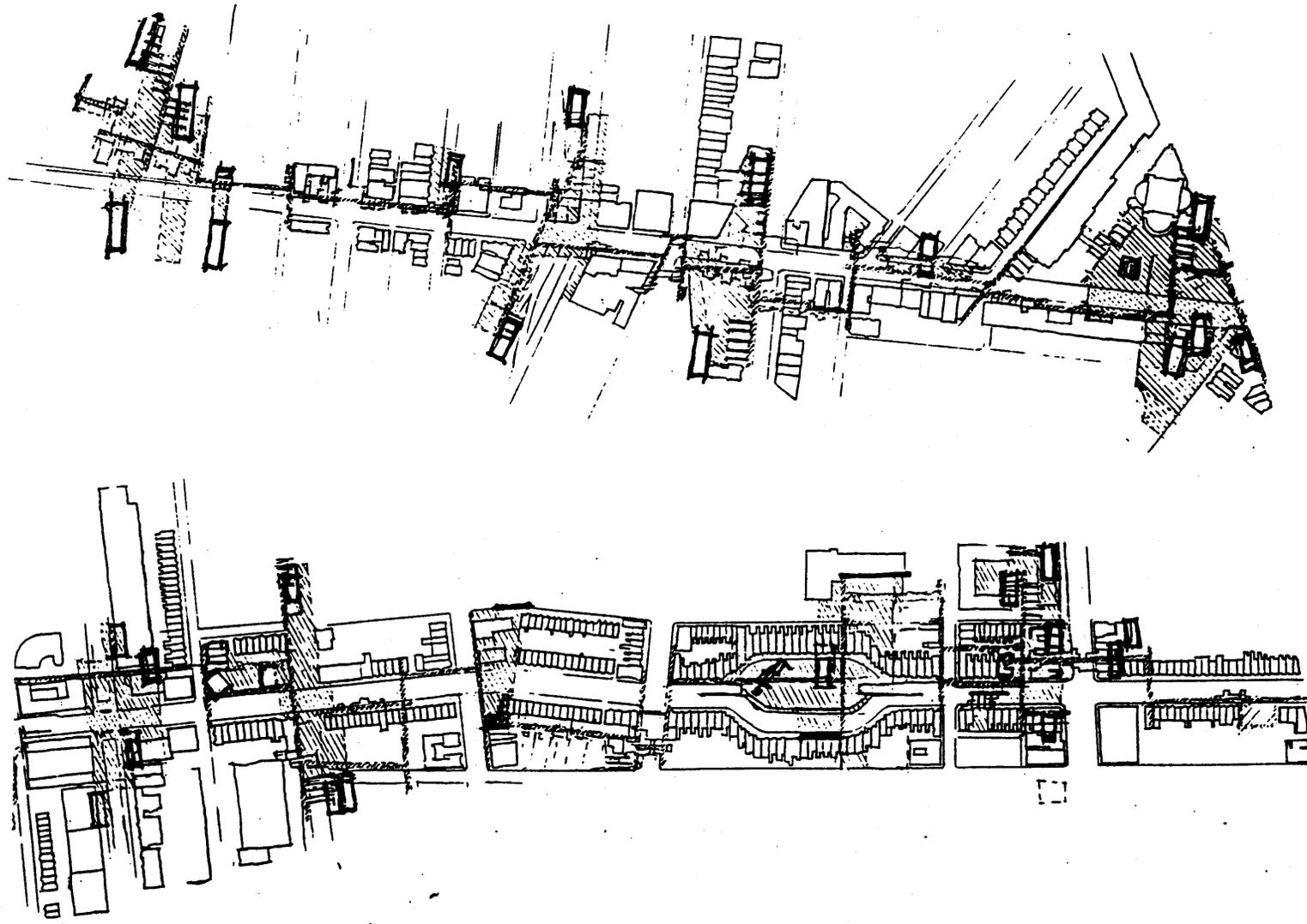
### 3. TRANSLATING THE LANGUAGE INTO NORMS: STREET, WALL, AND SCAFFOLDING

The qualities of this proposal at an urban scale are of three major types, which may be considered as norms in light of their comprehensibility in the current cultural situation. However, this "translation" is proposed very tentatively. After all, the goal of developing the foregoing language and vocabulary in as generic terms as possible was to challenge normative thinking, and to propose an architecture that would give life to challenges to the normative built environment. Thus, while admitting the necessity of translation into more "specific" understandings, even these are kept as generic as possible, and the examples given are to be taken as explorations of possibilities that are retained as fragments of the process in the same way that the proposed architecture would always incorporate its artifacts of process in the context of the site. The three general qualities, then, can be expressed as Street, Wall, and Scaffolding, and their associated variations.

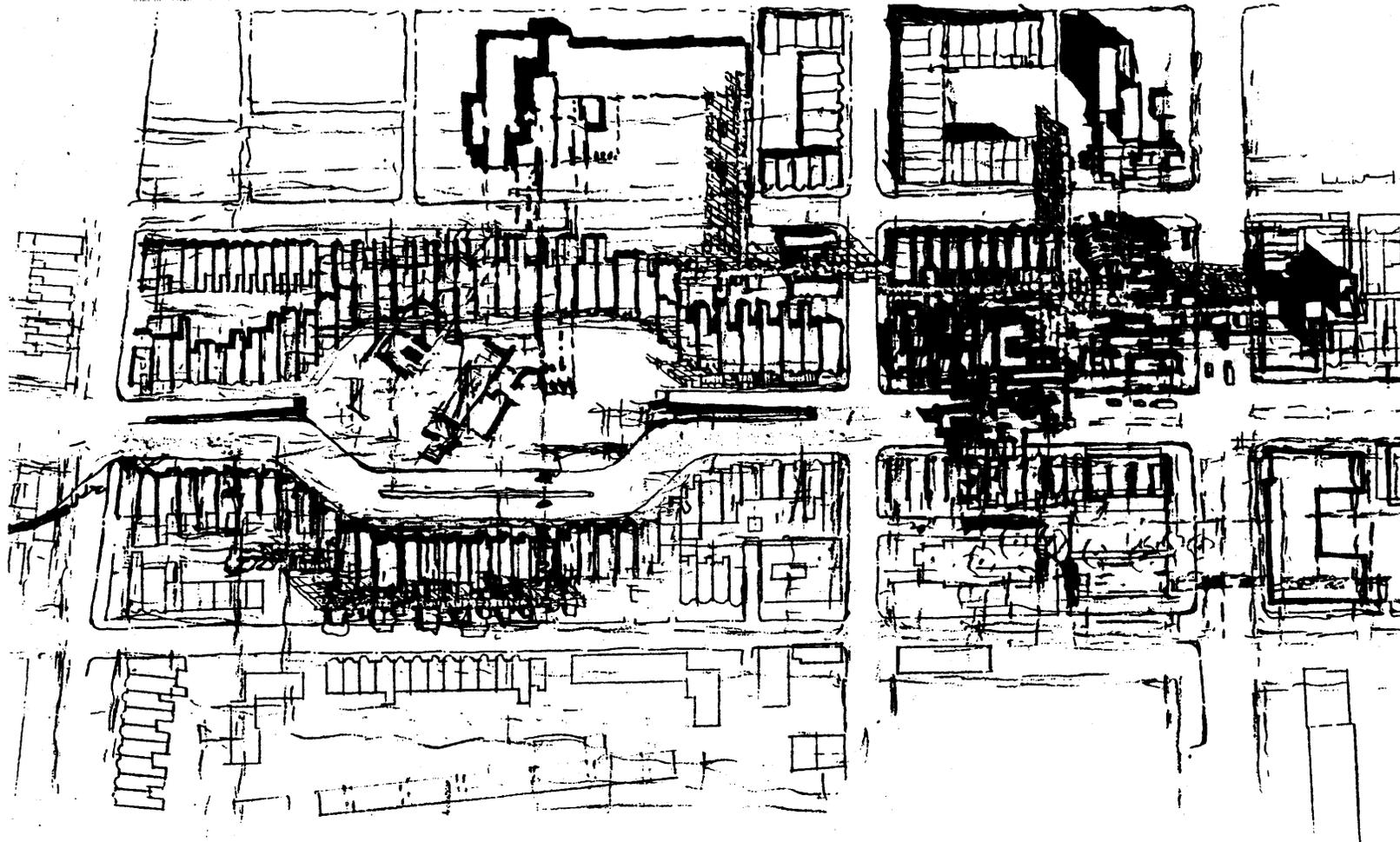
## A. Street

The Periodic Public Spaces and Public Figures express the primary East-West landscape direction of the city, and to give a periodic rhythm to the street. The limits of these public spaces should be clear, to show the zone of Mass. Ave. clearly stopping, it should not threaten its neighbors.

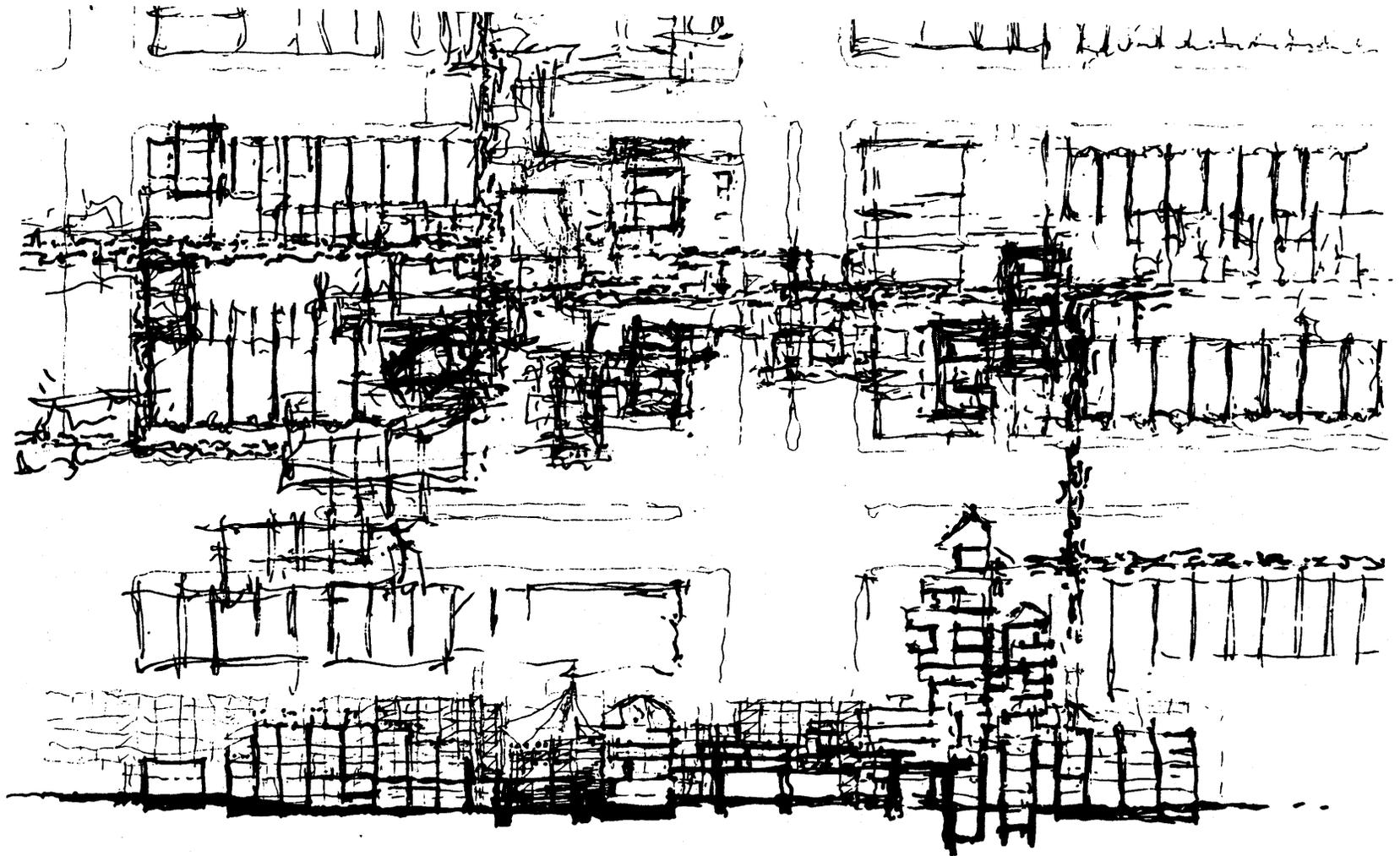
But size, or dimension, and periodic nature of public space is not enough. In order to build a community zone on the urban scale, you still need: landscape continuity (connecting to the river), and built public places -- larger public buildings along the street to bring life and resources, and to distribute the public quality more evenly.



*Figure 69, Super-site-plan, Massachusetts Ave. Showing potential periodic public spaces and Public Figures.*



*Figure 70, detail of street-plan, showing accretion of forms and access.*



*Figure 71, Site plan and section at Washington St.*

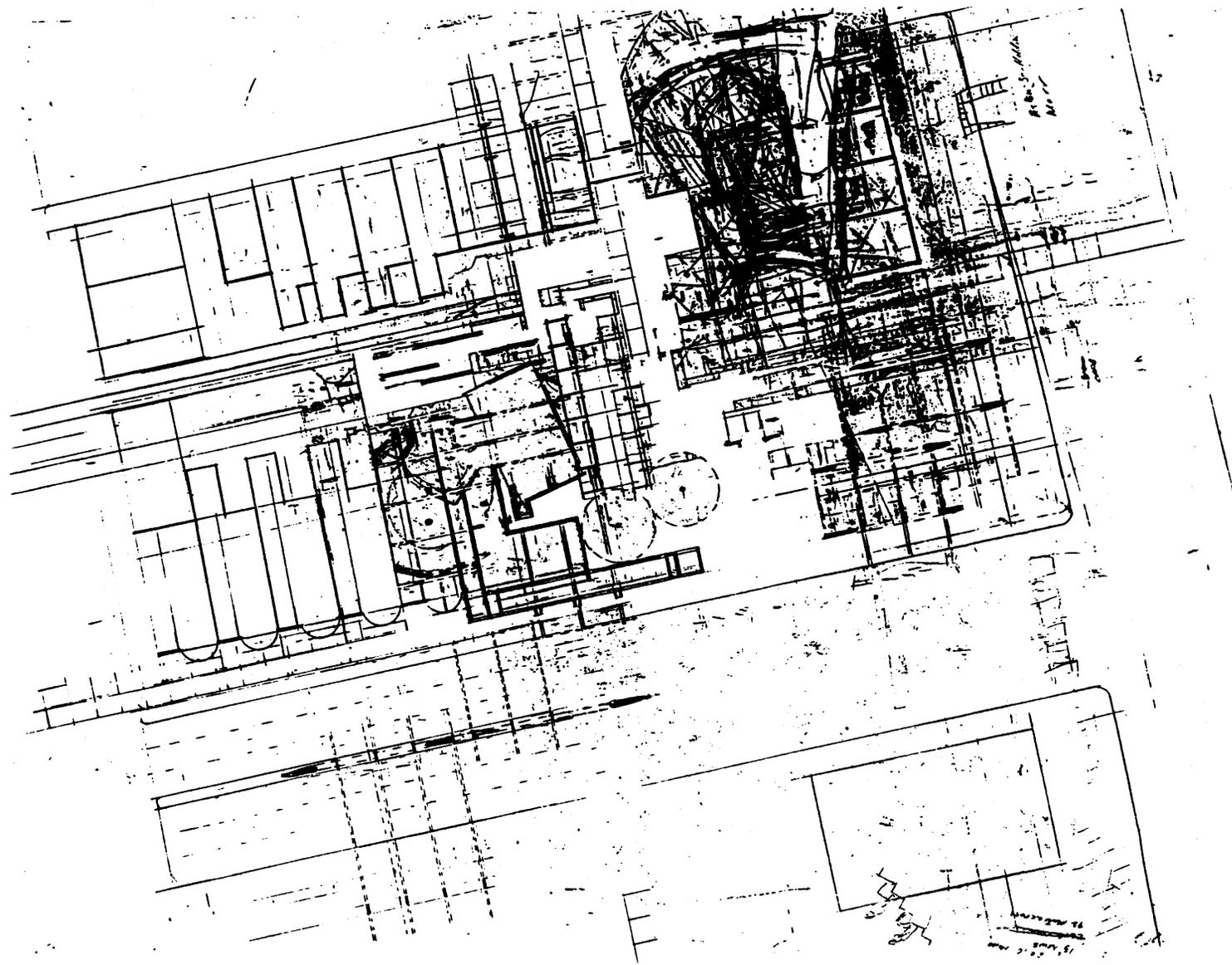


Figure 72, detail:site-plan at Washington St.

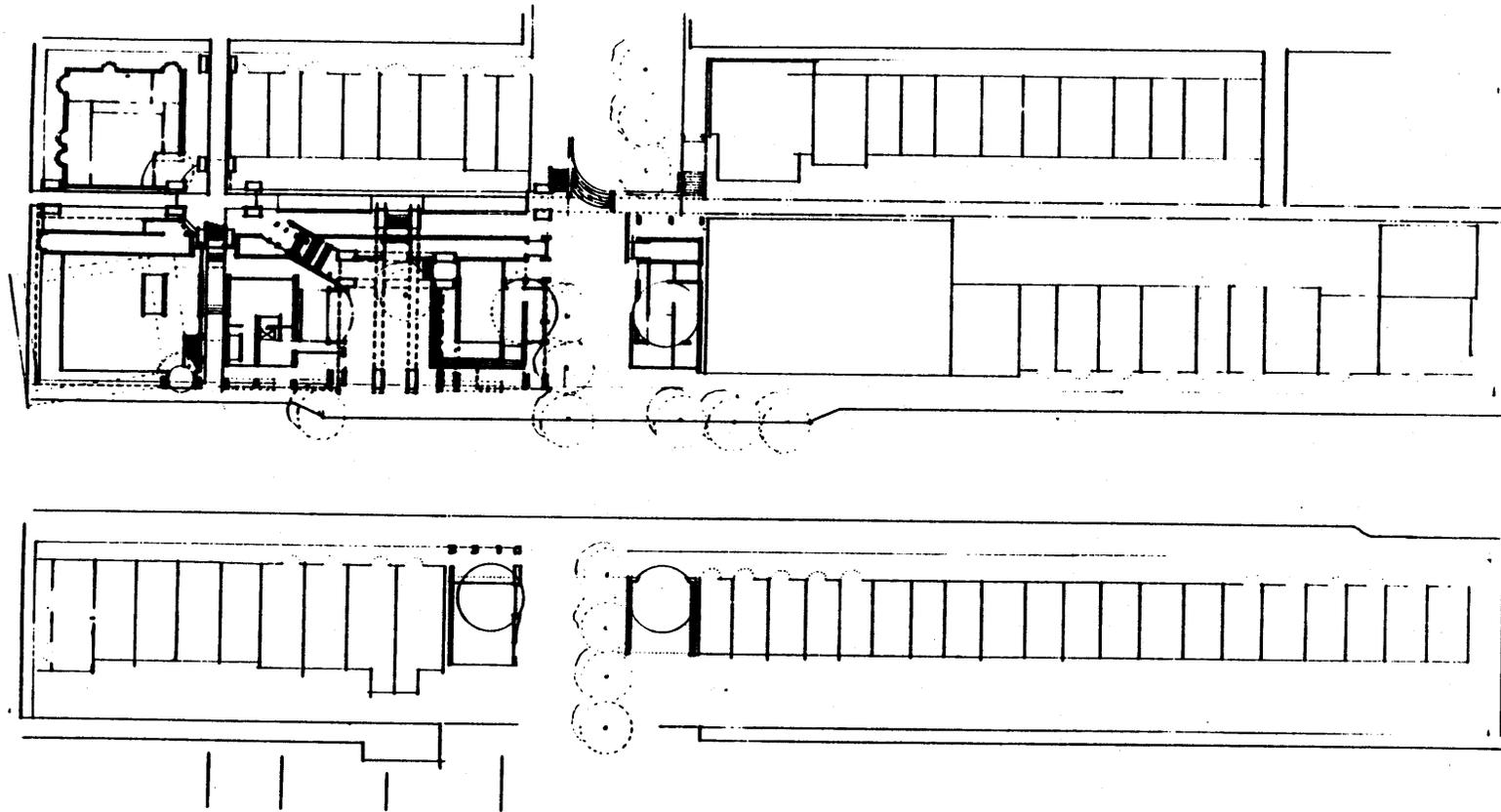


Figure 73, detail: site-plan at South-West Corridor.

## B. Wall

The Urban Landscape and major definitions of public and private are defined by urban-scale walls.

Continuous Access to green-space, open-air

Masonry ground transformations

overlaps with above-ground scaffolding



*Figure 74, scaffolding building a "thick" inhabitable boundary zone.*

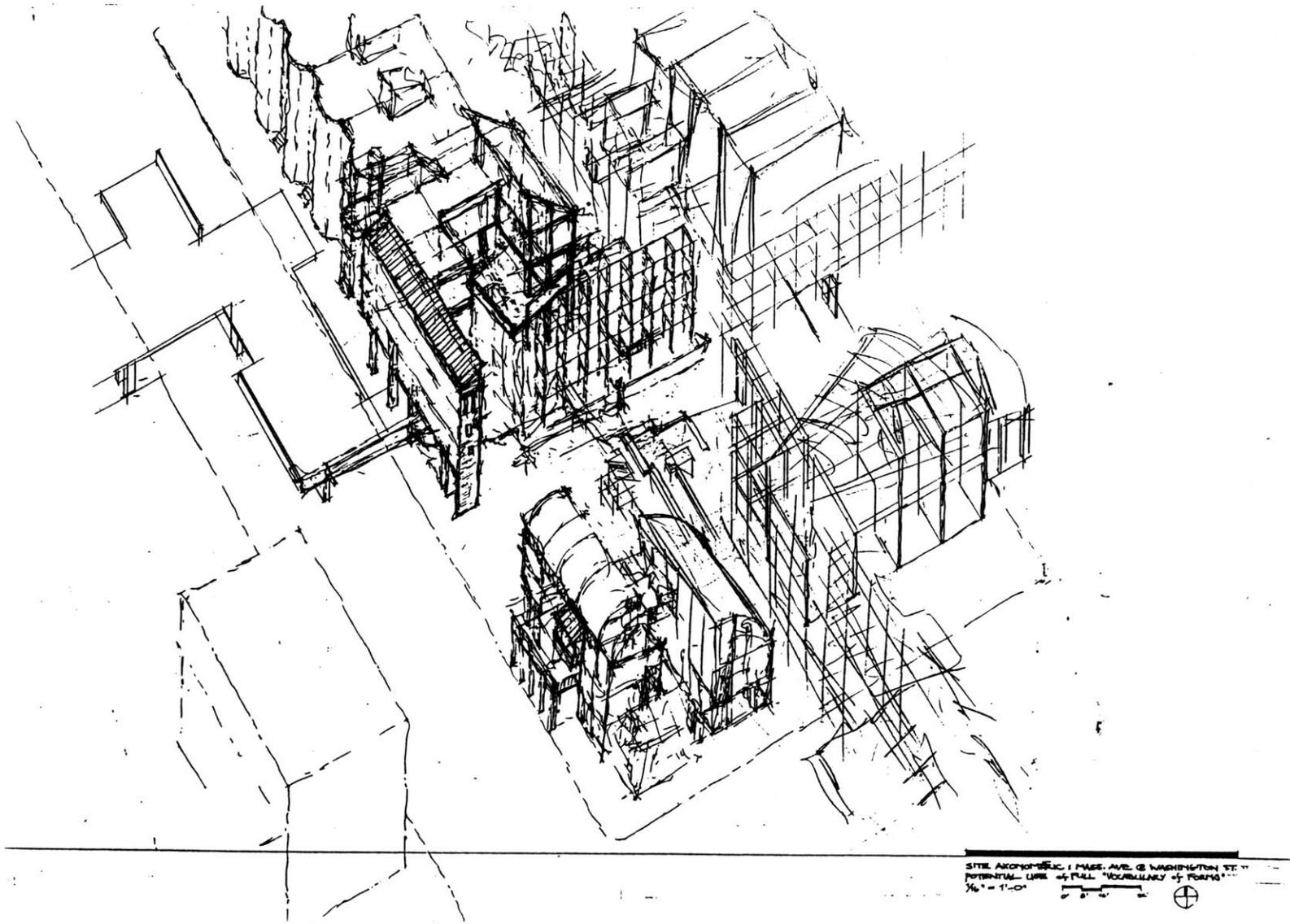


Figure 75, site axon at Washington St.

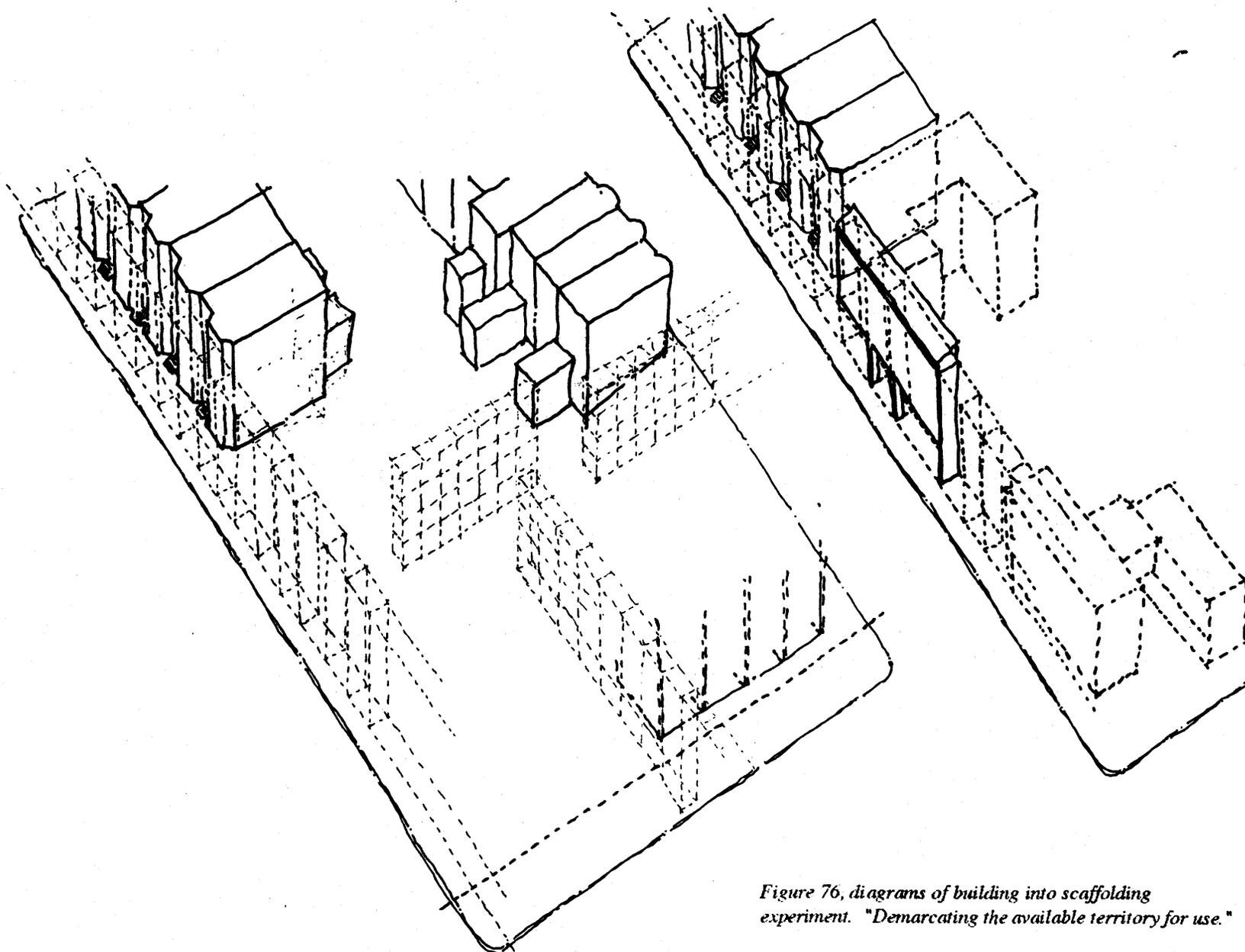


Figure 76, diagrams of building into scaffolding experiment. "Demarcating the available territory for use."

### C. Scaffolding

It is cheap and easy to erect. It stands in contrast to the day of massive public construction projects. There is no unnecessary demolition of large tracts of the city, yet it allows for change and growth over a large area by providing a framework and example, and by challenging the experience of the normal city as it is. This is in contrast to the authoritarian tradition of city-renewal and renovation, and counters the trend of historic preservation, which is inherently traditional and conservative.

Rather than being proposed as an architectural solution to known problems, the scaffolding project acknowledges that as an urban community we don't really understand what our problems are, we only see the symptoms. It is proposed, then, in the spirit of mutual discovery, and engaged upon as a process that does not pretend to know its results.

Scaffolding as a material building form has in itself the willingness and flexibility to adapt to cultural demands. This is opposed to building proposals of masonry walls and the other "hard geometries" of the architectural profession, as Kroll calls them. It is not saying what people have to do, but giving them the opportunity to make decisions collectively. Some rules, incentives and limits will probably be necessary and evolve in the process of making the proposal real. The architects can contribute by suggesting such ideas drawn from their knowledge of precedent.

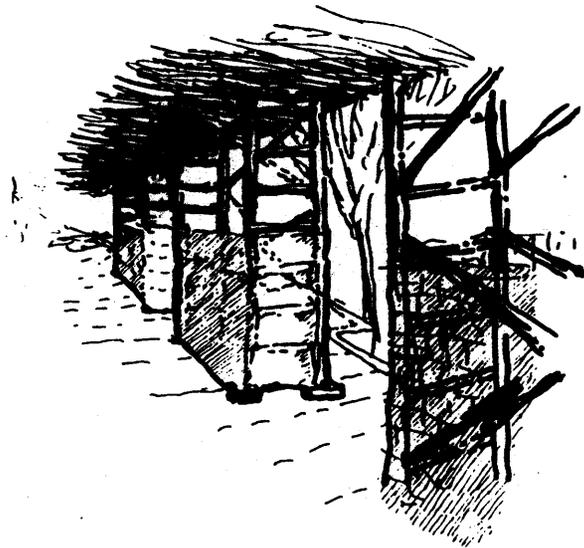
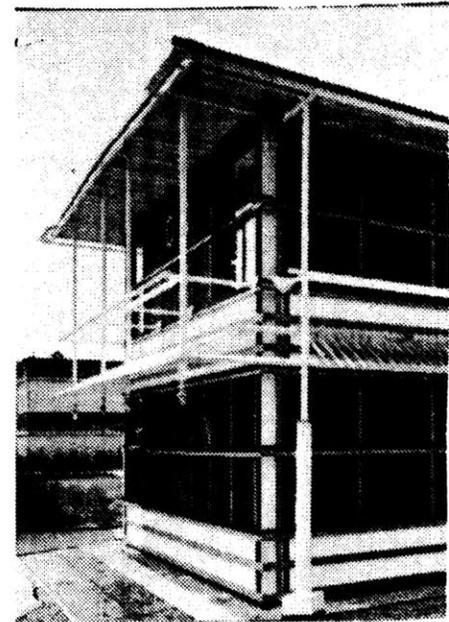


Figure 77, *qualities of scaffolding.*

The scaffolding as a physical presence unifies but at the same time allows for an intensification of differences. It will be deployed differently depending on the context. These differences will reflect and intensify the existing differences on the site (which will themselves be intensified by the other aspects of the proposal -- the landscape ("Wall") and public spaces ("Street").)

Through the demarcation of available zones and territories that the scaffolding sets up, people are given the opportunity to expand their built territory. Changing guidelines like the Back Bay diagram cited in Chapter One will arise from this process, if making such guidelines is made a part of the process. The scaffolding is the means to explore more open living arrangements than those currently available in the cellular, box-like apartments that now predominate. The scaffolding would also be transformed into the threshold zone of the new public buildings, and used to redefine the thresholds of existing ones.



*Figure 78, demarcation of available zone through added "scaffolding."*

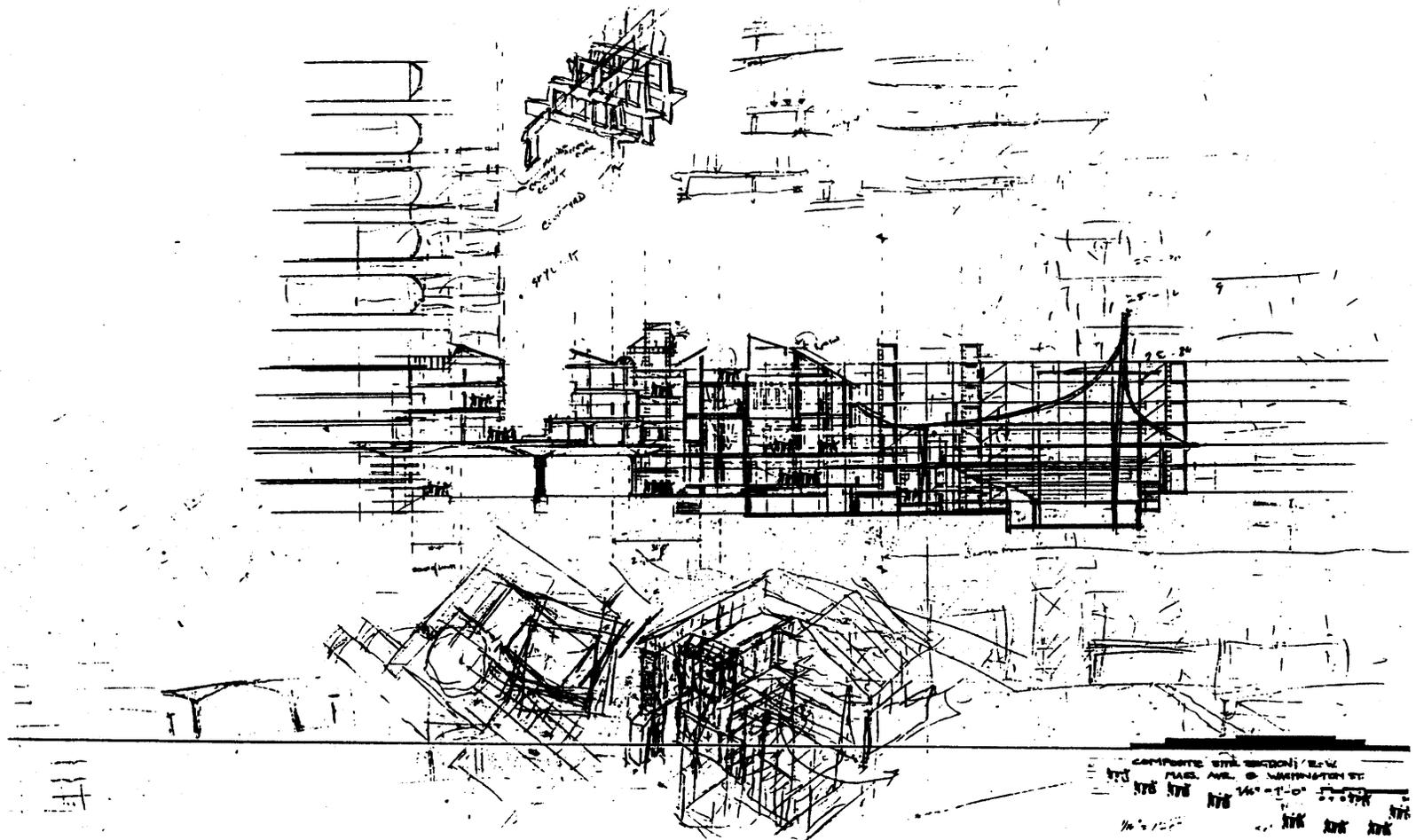
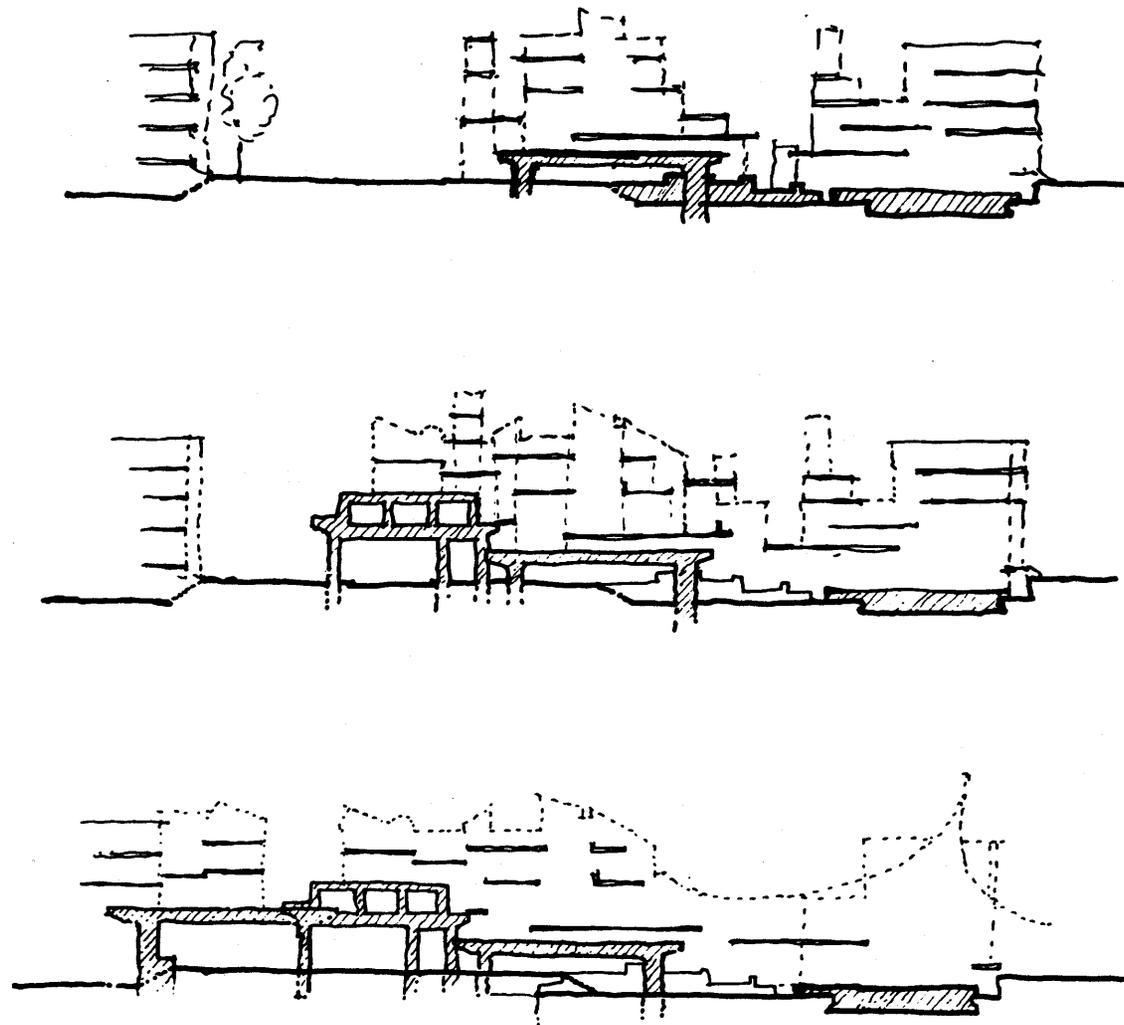
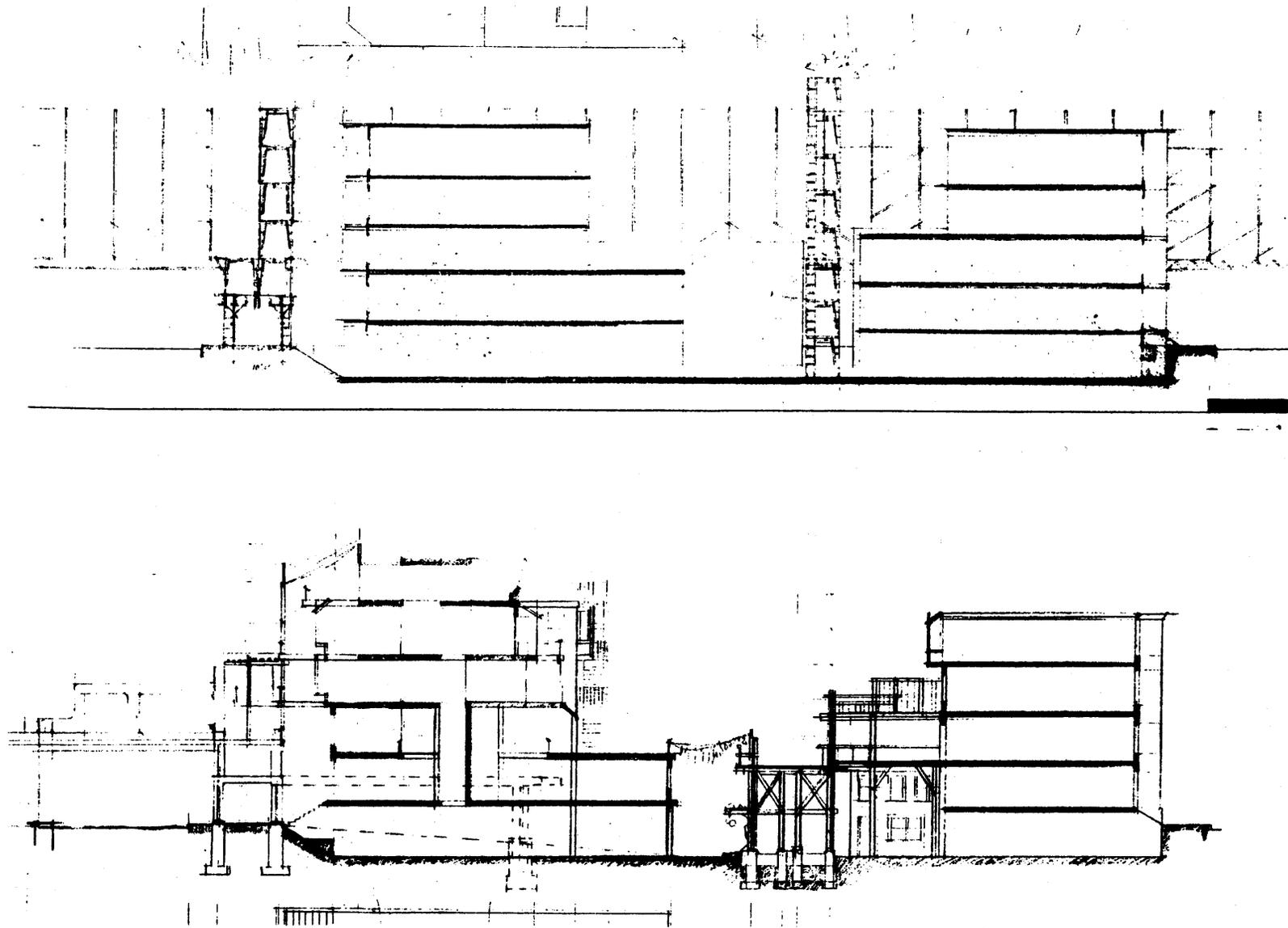


Figure 79, site section at Washington St.



*Figure 80, diagram of range: landscape transformation to inhabited bridge/built continuity.*



*Figure 81, section showing change in building fabric through scaffolding intervention. -- stablishing the available zones with the physical form of the scaffolding.*

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<sup>1</sup> Lynch, p. 23.

<sup>2</sup> Goffman, Frame Analysis

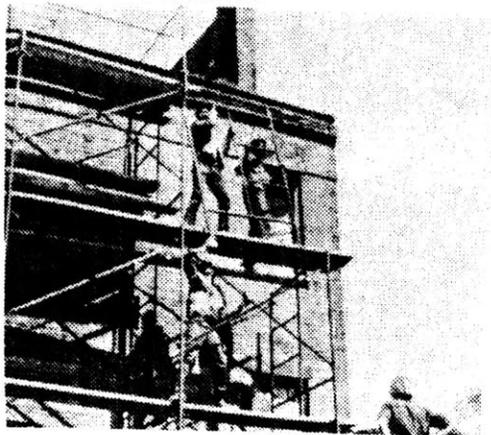
<sup>3</sup> Wodiczko

## CONCLUSION

### RELATIONSHIP OF FORM AND PROCESS

The variety of different ways of making the built environment is as endless as human cultural variation. And each variant has its own results, both in terms of form and social life. There is the participatory design process of the current architectural profession, or that of squatter settlements; the slow growth process of homogeneous communities; the visions of artists like Tadashi Kawanata; the commercial creativity of a Newbury St.; the iconic cultural challenges posed by Krzysztof Wodiczko; the Urban Renewal projects and slum-clearance projects; the ups and downs of in-between urban areas such as the South End; the arbitration, negotiation and advocacy development of a place like Beacon Hill; the design-build communities like Arcosanti; the ethnic-community advocacy developments such as the Villa Victoria enclave in the South End; the gradual interaction and change in relation to large scale elements such as in the fortified towns; and on and on.

Choosing the means in which to work is, then, a critical decision for an architect, for the ramifications of this decision are as great as the



*Figure 82, future residents renovate.*

impact of the form, perhaps greater. Certainly the two are critically intertwined. In the words of the architect Imre Halasz:

Architects in this century have become very good at making extraordinary places in an ordinary way. What architect's need to become good at for the future is designing ordinary places in an extraordinary way."<sup>1</sup>

### Collaboration in Architecture

#### *means=ends*

In so-called vernacular architecture the product can be seen to be a part of the creative culture of the people living in it. This accounts for the sense that these places have for many people of being "alive," and why historical recreation or deployment of traditional forms always seems to be cynical and dead.

In modern culture, the product is a part of the consumer culture of the people using it. This is the difference. It is not, as Rapoport would have it, a problem of cultural "fit," or appropriateness. In fact, a consumerist architecture fits a consumerist culture very well (in so far as it reflects the culture) and is even understandable to it, in the blithely nonsensical way that consumerist culture also makes sense. Nothing surprises a consumerist.

The seemingly endless variety of, and persistent disconnection between, architectural artifacts in the modern city is simply a part of the modern city. This phenomena is more than a reflection of the culture, it



Figure 83, project by Tadashi Kawamata

is a part of it. Likewise the ills of consumerist culture are the ills of its architecture. If users are not involved in designing their environments, it is simply part of the disengagement of people from a creative role in the shaping of their urban environment in general.

Buildings can only reflect the social reality of their making. Even if architects try, as many do, to be sensitive to the social situation, even commenting on it in the design, or struggling for contextual appropriateness, their work still too often lacks relevance to the day-to-day creative life of the users. Most new urban architecture is as cold and disengaged as the culture in which it came about. The exceptions are where users were involved in the making, and the real exceptions are those places that the users or inhabitants have taken over and begun to remake.

The essential question, then, is not how to change the final product, but to change the culture of building, moving it again into the realm of the creative culture of the inhabitants, and out of the consumer realm. In fact, the idea of finished buildings as products needs to be completely challenged.

But the objection is raised that in a consumerist culture individuals express their creativity, individuality, and group allegiances primarily through the consumer choices that they make, rather than through the physical act of making. This may be partly true, yet even so, it is still an argument for greater and more varied choices throughout the process of making architecture, not less. Once again, as Yona Friedman pointed out, architects now often attempt to design for a composite image of a standard user that they can't really know, thereby designing for no-one.

Even in this total consumerist model of creativity, the idea of the finished building a product could still be replaced by seeing the parts of its making as products. This would add up to an environment brought about through multiple and interactive consumer choices at a human scale.

### *Openness*

And yet the marketplace in which architects work is persistent in one demand. It cries incessantly, "What will it look like? What am I paying for? WHAT WILL I BE GETTING?" The consumer isn't very comfortable being told that the architect doesn't know, in fact would prefer *not* to know. Those who have tried to practice participatory design have often tried to point to images of vernacular architecture in answer. But it is not too convincing, after all, that is the past, unbuilt architecture is the future. The architect, as Lucien Kroll does, may cast themselves in the role of advocate for the rights of the future to define itself. Or, in Kawamata's terms, for the rights of individuals to make their creativity felt in the public sphere. In terms of pictures, architects could propose pieces of the process, rather than the total end result. Included could be a record of the "pieces" as they were used in past processes. The British architect Ted Cullinan offers such an example.

### *Life and Experimentation*

Rapoport addresses the problem of how modernization affects the relationship of architecture and culture in terms of the ways in which

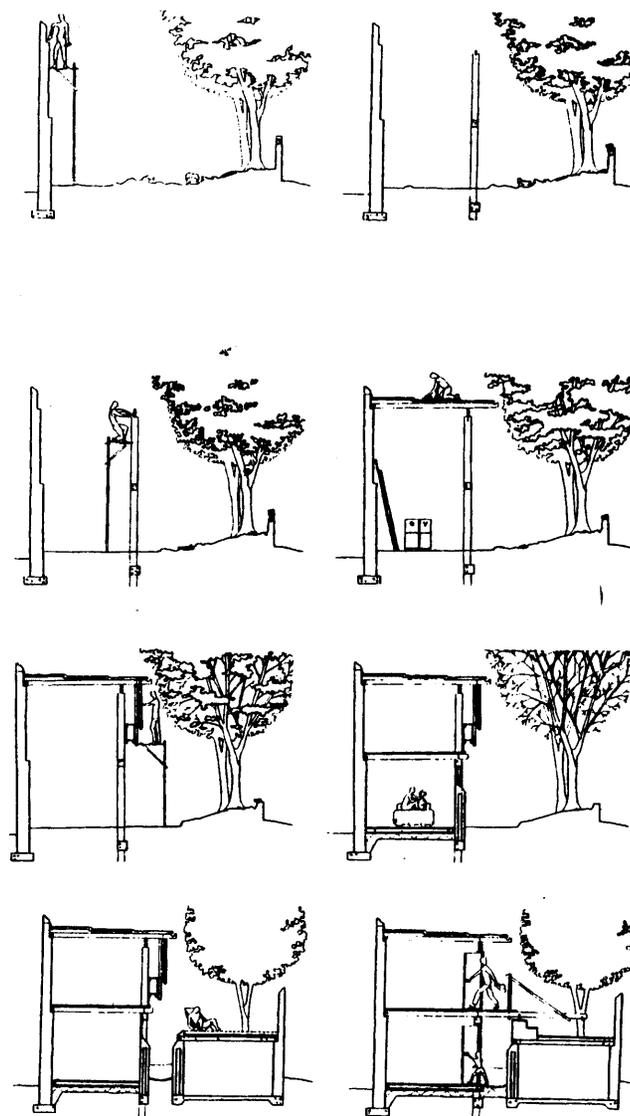


Figure 84. a house built in London.

social action and relationships are ritually structured around physical objects in pre-modern societies He says:

The idea of the house as a social control mechanism...may no longer apply with as much force in a society with the formalized and institutionalized control systems of today...the link between culture and form is weakened...<sup>2</sup>

In modern societies the link between culture and form is not simply weakening -- as the system of exchange becomes more particularized, as material goods appear in profusion, as relationships become more narrowly defined. Robert Murphy eloquently describes the predicament of modernity in *The Dialectics of Social Life*:

The gap between value and reality may indeed be greater now than it was in the past, but that is not the critical element. What matters is that the contradictions are more easily perceived today and the breaches less easily healed and mediated. The mood of our age is one of confusion failure of confidence, and a growing sense of unreality, which are at once its despair and its only hope<sup>3</sup>

It is simply easier to see the ruptures in the scheme, and these are less easily healed by normative understandings. The link between culture and form persists, but it is no longer easy to "make sense" out of it as individuals. Rather, we need to propose the celebratory making of it as the end, rather than making it and hoping it will make sense.

We cannot know scientifically what determines human behavior and creativity or how these things will come out. Therefore we must act

ethically and according to our emotional and common sense, informed by experience, in the same way we must act as moral beings, rather than in a technocratic way.

*Scaffolding as Metaphor and Ultimate Expression*

The French anthropologist Roger Bastide called in 1971 for a new anthropology that creates itself, "...in the action of groups and their efforts at modelling and remodelling themselves...a science full of value judgements...of contradictory values...in the midst of the struggle." The same approach could be proposed for architecture. To borrow Bastide's words, this will be an architecture of "blood and ashes," of experiments tried and failed, of collaborations and not of "triumphant tomorrows."<sup>4</sup> This is the utopia of scaffolding: it is building but is never a building, it is the making of the urban environment carried out by those who must inhabit it.

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<sup>1</sup> Imre Halasz, personal communication, Spring, 1994.

<sup>2</sup> Rapoport, pp. 48-49.

<sup>3</sup> Murphy, *Dialectics*, p.230.

<sup>4</sup> Bastide, p. 8.

## APPENDIX: NORMS AND DIALECTICS IN ARCHITECTURE

Architecture is in part a reflection of the individual mind within a cultural framework. As Levi-Strauss describes it, "[the Bororo's] social and religious systems...were so complex that they could not exist without the schema made visible in their ground-plans and reaffirmed to them in the daily rhythm of their lives."<sup>1</sup>

Although there is great idealization about the division between the moieties -- the circular arrangement of houses is bisected by a moiety line -- it is not the most important division in the actual life of the villages, as expressed in physical movement or social interaction. The division between the genders -- women's houses in a ring around the men's house which is off-limits to the women -- is the one that is most strictly enforced and the one that has the most to do with the "daily rhythms" of social life.

In the traditional villages of the Mundurucu, another Amazonian society, written about by Yolanda and Robert Murphy in their book Women of the Forest, the layout of the village and the architecture of the buildings reveals patterns of life that reverse the conscious ideology of the villagers. The houses are arranged in a circle, with the men's house also located on the perimeter. The women's houses are enclosed by walls on all sides. The men's house is a lean-to, open to the village and

also to the East. The Men's argument for this arrangement is that it allows them to keep an eye on what is happening in the village which is part of their ideology of male dominance of social life. In reality, the women can also keep an eye on the village, and do, by peering through the generous cracks in the bark walls. But the women actually enjoy a significant advantage in this regard as they can at all times see everything that goes on inside the men's house, whereas the interior's of their houses are shielded from view. There is a symbolic redressing of this unconscious imbalance in the existence of a small sacred hut next to the men's house, that is completely closed to the outside, that houses the symbols of the men's dominance, the Koroko, sacred flutes. In a testament to the importance to the men of this symbolic assertion of male privacy and power the punishment for a woman who sees the Koroko is public gang rape.

Incidentally, the Murphys support Rapoport's thesis, observing that the rainy, cool-at-night, and mosquito-infested climate should argue for a different type of men's house, but perhaps its openness allows the residents to be on guard against enemy attack...Such appeals to utilitarianism founder on comparative data, for we can find other groups in the Amazon that have open-sided dwellings, and most men's houses, where they exist, have walls.<sup>2</sup>

The simple fact that two such different forms of dwelling exist in one small society argues against the materialist-determinist view. It is clear that the important architectural articulations of form are primarily based on the patterns of gender relationships in the culture. A common detail found in houses in many Muslim cities, the lattice-work

Mashrabiyya windows, could be examined for a similar reversal of ideology. Again, in cultures that emphasize the seclusion of women away from the public life of the men, and the dominant position of men in social life, it is often the men's actions that, at least in the streets and even in many courtyards within houses, are under the gaze of the women.

Juxtapositions such as those elaborated on by Pierre Bourdieu in "The Berber House" are further examples of these complexities. This article is a short analysis of the organization of elements within the Berber house that purports to find in this organization a pattern that inverts Berber social norms related to the roles of the sexes. The relationship of the post and beam in the house is given much symbolic meaning, for example, the post becoming female and the beam male.<sup>3</sup>

However, Bourdieu's analysis ultimately sees the reversals as being so direct that they serve only to reinforce and support the prevailing ideologies. The problem is that this is an a-historical view, that does not admit the ever-variable nature of true social action. Social and cultural life are in constant flux. The system as described is made to appear as though it maintains equilibrium through what Murphy describes as the "twin theorems" of "most of modern social theory...actions generate structures and norms, and structures and norms stabilize action and convert it into experience."<sup>4</sup>

Another example of these kinds of issues in relation to architecture can be found in the discussion of Turfan by Tom Chastain and Renee Chow. For instance, there is the question that arises when one learns that some of the enclosures around each courtyard are meant to house

animals. What differentiation, if any, is made between the architectural spaces built for humans and those for animals? The example of the Nuer is interesting to contrast with the Turfan example, where the rooms for the animals within the house are not architecturally differentiated in terms of structure, technology, or materials. It is difficult to see in the plans and sections where the animals are meant to be housed. Tom Chastain could not recall in a number of cases which rooms were for them either. The differentiation also was a matter of some confusion. What was it? Tom insisted that there must be an architectural differentiation, and indeed this may be so, (although it is instructive to remember that in the case of the Berber house, the women sleep in the same room as the animals, although on a loft) But it is important to look carefully at the culture and the position of animals in the cultural fabric. Any differentiation may be more or less important in different cultures. It may be expressed in ways that are opposite, the case of the Nuer for example, being an illustration of this. Their byres for their cattle are far and away superior in all aspects of technology, size, quality of craft, and decoration than the simple shelters they build for themselves.

This reflects a culture that sees its relationship with cattle in a very different way from the way Westerners are used to thinking of it. This difference is not simply based on economics, for how could it be that the cattle are more important economically to the Nuer than to any other group of subsistence herders? It is part of the unique social-cultural fabric of Nuer life. To understand how a differentiation such as that between animals and people in a given society might be expressed in its

architecture, it is necessary to understand how it is expressed in all aspects of the culture. Is the distinction primarily one of architecture, or behavior, or cultural norms?

Also, what are the inter-relationships between religion and religious architecture and the architectural form of Turfan houses? The Imin Mosque, the most famous mosque in the area, bears a striking resemblance to the houses in its articulation of high mud walls, and its interior built with tall, thin, wooden columns supporting a roof that is lightly textured (made with mats?) and resembles the courtyard arbors of the houses. Yet other mosques in the area are quite different, being multi-colored and made with sharply articulated forms. Is the architecture of Turfan properly referred to as vernacular? Perhaps the architecture of the Imin Mosque is then also vernacular? This raises questions about the use of the label vernacular itself. What are the patterns of behavior and cultural form (myth, norm, identification) in the community that rely on the daily filling of the irrigation channels for their perpetuity, origin, shaping? How is the architectural form of the channels influenced by the cultural forms in turn?

Two MIT students explored some of these questions in their reports from an Aga Khan Travel Grant in 1989. They compared the house architecture of Turfan, Urumchi, and Kashgar. One of the interesting observations made in Samia Rab's report was that in both Turfan and Urumchi there was considerable traffic of non-residents through the streets of the neighborhoods under study throughout the day, although of different types. In Turfan, the neighborhood lies between the market and the fields, and in Urumchi (a larger, more urbanized city) the

neighborhood residential streets lie between major commercial avenues, and are used to go back and forth. Rab comments on the fact that the two towns exhibit strikingly different attitudes towards privacy despite the common presence of strangers, Turfan courtyards always open to the streets, Urumchi courtyards always closed. Perhaps the smaller size of the Urumchi courtyards has something to do with the difference, perhaps a difference in religious traditionalism, many understandings are possible. Rab suggests that in Turfan the lack of emphasis on privacy is "because all the residents work together and are familiar with one another and are seen as an extended family." This explanation may indeed be given by the residents themselves, but it does not represent an understanding of the underlying forces at work. Certainly there are even smaller social groups that work together and are familiar with one another, and even see the entire community as being of one family where privacy is carried to high degrees of practice, especially with regard to outsiders, or strangers passing from market to field--Bedouins in Arabia might be one well-known example. This is a good example of why it is necessary to look beyond the "common sense" understandings of a culture. Again, the larger question raised is what to study, what is most important or most interesting?<sup>5</sup>

As discussed previously, Amos Rapoport set out the basic principles for a rigorous social science approach, and elucidated the general categories of cultural factors that influence architecture most strongly. These are religion, and the kinship system (which Rapoport distinguishes as having a greater affect in the symbolic realm) and the position of women in society (which we would now refer to as the

relative positions of the sexes), the provision of basic needs, the attitude towards privacy, and the rules or norms for social intercourse. He also suggests looking at the relationship of the house and the settlement, the various attitudes towards site choice, and the degree of constancy and change in the society. Of course all of these categories are actually inter-related and interdependent, and the division of culture into categories is itself fraught with pitfalls and cultural biases. Given a specific situation, more specific procedural steps need to be outlined in order to effectively process the information from the categories that Rapoport sets out. Essentially, Rapoport's social science approach is lacking because it doesn't look closely enough at the human dimension of the use capacities, nor at the dialectical nature of the relationship of cultural signification and architecture. The normal architectural approach is, however, lacking for similar reasons. There is not enough attention to the human cultural interaction, the continuity of change, in the use and meaning of architecture.

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<sup>1</sup> Levi-Strauss, *Tristes Tropiques*, p. 204.

<sup>2</sup> Murphy and Murphy, *Women of the Forest*, pp 81-83.

<sup>3</sup> Douglass, pp. 98-110.

<sup>4</sup> Murphy, *Dialectics*, p.

<sup>5</sup> Rab, p. 10.

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23. Murphy, Dialectics, p. 111.
  28. Murphy, Dialectics, p. 34-35.
  29. Murphy, Dialectics, p. 235.

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