WHY DESIGN FOR CHANGE?

As the title implies, this chapter will provide a rationale for urban design, and architecture, to consider designing for change. In doing so, it will also provide the theoretical foundation for the case study presented in the following three chapters.

In initially considering the question of why designing for change is important to urban design, the most evident answer might be that cities have historically been subject to a great variety of forces that have often resulted in physical transformations. The transformations that can occur are remarkably complex and involve an innumerable number of variables. The degree of complexity to be confronted is actually so great that in the past one hundred years, the new profession of planning has joined the ranks of other specialists with interests in the urban environment, including architects, engineers, landscape architects, urban designers, economists, sociologists, psychologists, geographers and lawyers, to more closely attempt to manage, or react to, the transformations.

The forces driving and/or enabling these transformations involve the interaction of an incredible array of socio-cultural, economic/market, political and technological factors that are often beyond the control of these specialists. These factors are also often beyond our ability to predict over any large period of time. However, these factors will generally manifest themselves in the environment through the actions of a great number of people and these actions may result in the modification of the built environment. Since these modifications are being made largely by individuals, these changes will be particularly evident at a small scale.

This scale might be considered the “neighborhood” and in the process of change, some neighborhoods will languish, others will remain vital, while others may experience periods of downturn and revitalization. In the course of this process, the built environment will be required to accommodate these variations and, as Anne Vernez Moudon (27. 1986a (see page 133 for an explanation of this referencing system)) has pointed out, we add only 2-3% to our housing stock annually and that new residential construction will likely have a life-span in excess of one hundred years. This constancy of the housing stock through potentially dramatic periods of change demands that our “neighborhood” or “urban architecture” be designed to accommodate unforeseen change as best as possible.

Several architecture/planning/research projects have already begun to address this challenge and they have provided a basis for approaching the topic again on an urban scale. The Social Sciences have also been studying urban transformations for much of this century and they have developed theoretical models and concepts, as well as
Sequent Occupancy: The Role of Immigration

Sequent occupancy is simply the process of one group of people being replaced by another in an environment over a period of time. On a grand scale, this process can be discerned through the observation that between 1985 and 1990, the 860,000 people who left New York City were replaced by 816,000 newcomers. Of these 816,000 new arrivals, 115,000 came from within the region, 270,000 came from elsewhere in the United States and 428,000 came from other countries. (30. Roberts 1994) Without downplaying the importance of those migrants to New York from elsewhere in the United States, the most striking number among the newcomers is the largest, the immigrants from other countries. The remarkable influx of immigrants to the city actually, at one point in the early 1980's, resulted in a net gain in the city's population, which runs contrary to the conventional wisdom regarding American cities and population growth. (21. Winnick 1990) This is evidenced by the 2,082,000 foreign-born residents of the city identified in the 1990 Census. This number represents 28.2% of the population and it is the highest number of foreign-born residents living in the city since 1940. (30. NYC Planning Commission 1992)

These newcomers have significantly changed the "ambience" of many areas within New York and the impact of immigrant populations on old neighborhoods has been noted by scholars and journalists alike. One, for example, has noted that in "...Crown Heights and East Flatbush, American candy stores have given way to Jamaican restaurants, Puerto Rican bodegas and Trinidadian roti shops. In Cambria Heights and Laurelton, the manicured lawns and newly painted homes proclaim the presence of the Caribbean bourgeoisie. On Boston and Gun Hill Roads, the record stores belt out the pulsating rhythms of soca... and the lilting rhythms of reggae." (21. Basch 1987) These multi-sensory descriptions of street scenes are not exclusive to New York either. From Lowell, Massachusetts we hear that "(a)cross from a small, grassy park dedicated to Greek and Irish immigrants, Joe Cogniano, whose grandparents were Italian, sells mangos to Hispanic customers from the back of his truck. Children play tag while chattering in Spanish on O'Brien Terrace, part of a housing project built in 1939 for Irish laborers. The pungent odor of Vietnamese fish sauce fills a Southeast Asian restaurant where Giavis' Greek grocery once thrived for more that 70 years." (22. Blackman 1993)
Why is this process important? The first reason is that these immigration figures, while dependent on specific political, economic and socio-cultural events around the world, represent a trend that will potentially continue into the next century. It has been noted that if current patterns continue, by the year 2025, fifty million people will have been added to the nation’s population by immigration alone, after 1985. (28. Lamm & Imhoff 1985) Such an influx will lead to an increasingly diverse population that will accordingly have different requirements and standards for the environment.

The continuation of this influx may not seem evident since the most recent numbers represent peaks not seen since early in the century, however, a quick review of the history of the country’s immigration policies effectively explains the early to mid-century reduction of the number of immigrants to the United States and the recent reversal of this trend. From the passage of the Chinese Exclusion Act of 1882 until the massive revisions of enacted by the Hart-Celler Act in 1965, the United States’ policies towards immigrants were, in general, made progressively more restrictive. This is particularly true with regard to Asian immigrants, who were essentially banned from the nation for those 83 years. (21. Winnick 1990; 30. NYC Planning Commission 1992)

Since the Hart-Celler Act of 1965 immigration to this country has steadily grown and has in fact, vastly exceeded the projections that accompanied the Act. From the initial forecasts of 290,000 annual immigrants to the United States that the Act is based upon, the number of legal immigrants rose to 400,000 by 1974 through provisions made in the Act for refugees. Then, with the addition of 300,000 illegal immigrants, the annual totals rose to 940,000 by 1978, a number that has been at least, sustained ever since. (21. Winnick 1990) Aside from the volume of immigrants indicated here, another profound change occurred as a result of Hart-Celler. This was in the place of origin of the migrants. Prior to 1965, over one half of the immigrants to the U.S. were born in Europe and another 31% were born in Canada or Mexico. By 1980 though, Asians made up 46% of the total annual immigrants to the country, a rise from 6% in the 1950’s. (30. NYC Planning Commission 1992) In 1992, people from Latin America and the Caribbean made up 44% of the annual immigrants. (28. Time 1993) This change is vividly displayed in New York through the top ten countries of origin for immigrants to the city between 1982-1989. They are: the Dominican Republic, Jamaica, China, Guyana, Haiti, Columbia, Korea, India, Ecuador, the Philippines, Trinidad & Tobago and the former Soviet Union. (30. NYC Planning Commission 1992)

The second reason why this is important is the effect of these population flows on the demographics of the nation’s urban neighborhoods. As the anecdotes in the beginning of this section depicted, throughout the nation many of these immigrants are succeeding other ethnic groups as the residents of urban neighborhoods. Most remarkably, the influx of foreign-born people into cities has resulted in the number of foreign-born residents of several cities exceeding one-half of the popula-
tion. These cities include Miami, FL (60% foreign-born), Huntington Park, CA (59%), Union City, NJ (55%) and Santa Anna, CA (51%). (28. Time 1993) Aside from the cities such as these that are close to common ports-of-entry, many immigrants have pursued employment opportunities that have led to such “heartland” areas as Garden City, Kansas in which “(a) at least 20% of the town is now foreign born...” (22. Sontag 1993)

As the beginning of this chapter alluded to, sequent occupancy long been a topic of study in the social sciences and the Chicago School of Sociology, in developing a program of systematic urban research in the 1920's and thirties, incorporated it as a fundamental tenet of their conception of human ecology. In noting the fact that environmental “... succession has been so conspicuous a phenomenon...” historically in Chicago, Paul Cressey (39. 1938) identified a process of succession in both immigrant and “American” neighborhoods.

Patterned after the cyclical nature of a biological-ecological model, this process of succession involved stages of: invasion, conflict, recession and reorganization. To briefly summarize the process, the first stage involves the introduction of a new element into an established setting in either minute or overwhelming numbers. Then, depending on the degree of dissimilarity between the newcomer and the established tenant, this act could instigate some degree of tension and conflict, as further newcomers are introduced. Then the newcomer supplants the previous occupant as the majority occupant, which is followed by a period of reorganization of the newly established group’s lifestyle to accommodate the new situation, environs and opportunities.

In the light of this seemingly workable model of sequent occupancy and the abundance of data regarding recent trends in immigration, an argument could be made for the necessity of urban design to accommodate the environmental requirements of our increasingly culturally and linguistically diverse population. Fundamental to this argument would be the design of urban neighborhood architecture that is “open-ended,” and based on the assumption of synchronic change, of sequent occupancy and of diachronic variability.

Cultural Landscapes

The depictions of the street scenes in New York City and Lowell, MA used in the previous section are descriptions of cultural landscapes recently created by immigrant populations in neighborhoods that already existed prior to their arrival. It has been argued (39. Rapoport 1992) that cultural landscapes ought, in fact, to be the basis of environmental design research. Following this logic, the creation of an identifiable cultural landscape could be seen as the nexus between a sociological model of sequent occupancy and the built environment, or “design.” In accord with this view, this thesis project is founded on the analysis of change in these cultural landscapes in order to develop a model of “urban frameworks” for application in design. To accomplish these ends, we must first precisely define “cultural landscape.”
The simplest definition of a cultural landscape is that it is the product of the interaction of humans and the physical environment. This rather broad definition can be made increasingly specific and hence, useful to design by considering that “(i) if all landscapes are at the very least modified through human action, are lived in and have meaning, this makes them cultural, since culture defines all human beings, while at the same time dividing them into groups.” (39. Rapoport 1992) Through this clarification, we can begin to see that if the actors in this process are themselves divided into distinct cultural groups, it is likely that the landscapes that they are creating are as readily identifiable as their “designers.” If this is so, the question then becomes, how are these environments made to be identifiable and how can we perceive this organization?

Rapoport (39. 1992) argues that cultural landscapes are created over a long period of time and they involve decisions made by innumerable numbers of people. These decisions, he continues, adhere to a system of informal or formally codified rules which are related to shared images of idealized environments. Through adherence to these systems of rules, the decisions made by independent actors all have a coherence with one another and they begin, over time, to cumulatively create an environment that is, as nearly as possible, congruent with an idealized vision shared by that cultural group. Conversely, if the individuals, in making their respective decisions, are not adhering to a shared system of rules, the resulting landscape will not have a coherence that would identify it as an artifact of any one cultural group.

This last situation is analogous to the heterogeneity of many contemporary environments in the industrialized world which could lead to conflicting decisions and result in tension. These conflicts are often resolved by the imposition of formalized rule systems (which none-the-less, enforces someone’s idealized image of the landscape) that the individuals must adhere to. (39. Rapoport 1992)

To further identify the cultural landscape as a concept, we need to identify the intent of the decisions being made regarding the landscape. These decisions can be seen as largely regarding the creation of a “system of settings” that support “systems of activities.” (39. Rapoport 1977 & 1992) These two systems, and the relationship of the environment to behavior, can be observed through the use of the concept of the behavior setting, which can be described as “... a standing (or recurring) pattern of behavior and a milieu (a physical pattern), which act as a unit for a period of time.” (39. Lang 1994)

Behavior settings, as components of cultural landscapes, are derived from the organization of space, time, communication and meaning (39. Rapoport 1977; 1982a, 1990; 1992) and the organization of space can also be further defined as the organization of fixed, semi-fixed, and non-fixed features (the latter of which are deemed “informal” in Hall’s work). (39. Rapoport 1977; 39. Hall 1966) The decisions made in creating these behavior settings intend (consciously or not) to communicate information to the occupants through cues embedded in these fixed, semi-fixed and non-fixed features in the
environment. Through the ability to recognize these culturally-specific cues, "...a set of expectations about what will happen next in a well-understood situation..." (39. Schank 1990) might be recalled from memory which enables a person to comprehend the actions of others in the setting, to understand their own role in the setting, and to identify actions considered appropriate in the context. It should be noted though that behavior settings generally only facilitate or inhibit behavior through these cues. In some instances however, the environment has been configured to make some desired behavior virtually impossible. (39. Rapoport 1977; Gehl 1987)

To consider the culturally-specific cues incorporated into behavior settings in context with the decisions being made in the creation of the cultural landscape, it becomes apparent that consistency in interpretation is related to the issue of shared rule systems. The more consistent the decisions made by the population are in creating the cultural landscape, the more consistent the behaviors that the environment will elicit from the users of the environment from that same group. This leads to another important concept in considering immigrant populations in a heterogeneous society like the United States. Succinctly stated, this concept suggests that "...when there is no interference, a clustering process tends to occur in cities based upon perceived homogeneity, differing interpretations of environmental quality, lifestyles, symbol systems and defenses against overload and stress." (39. Rapoport 1977) This tendency can clearly be related to the discussion above and it can also be considered a function of the perceived "cognitive distance" between groups sharing the environment.

Through this tendency to cluster, in a contemporary American city, several cultural landscapes could be expected to exist within close proximity to one another. As demonstrated in the previous section, these cultural landscapes are often created in environments that were "inherited" from groups that relinquished control over them and accordingly, the fixed features comprising these landscapes are quite often also "handed-down." The predetermined structure of the fixed-features requires that the new occupants rely more heavily on semi-fixed and non-fixed features to provide the cues discussed above. (39. Rapoport 1982a, 1990) This observation will become important as we move to discuss the concept of "frameworks" in the next section.

Frameworks

Frameworks can be conceived of quite simply as structures designed to act as "supports" for change to occur within (describing the relation of "support" to "infill," in N. J. Habraken's terms) and they can be conceived of as being physical frameworks and legal frameworks. Before addressing these distinctions, one question that might be posed in considering frameworks is: why design to accommodate change? In considering this question, Rapoport (23. 1990-1991) presents an array of variables, which may be present in situations requiring a change in the use or configuration of the environment. These variables are Instrumental, involving new technologies, new
functions, new standards and new uses of space; Expressive/Latent, involving personalization and meaning; Social, involving interpersonal relationships; Cultural, involving intra-group communication via shared symbol systems, world views, lifestyles, activity systems, etc.; Demographic, involving variations in groups of people including family units, and also such factors as age, ethnicity, race, health, and economic status; and Economic, involving income and availability of resources.

So far, a case has been presented that argues that sequent occupancy by distinct cultural groups is a rationale to consider in designing for change. This argument can be substantiated and further developed through consideration of these six variables. Through the discussion of cultural landscapes in the last section, the importance of the Cultural, Expressive/Latent, and to some extent, the Demographic and Social, variables have been introduced. Through this notion of sequent occupancy, or environmental succession, the argument has thus far considered a need for frameworks to respond to diachronic variability, change over time. This perspective permits the evaluation of the creation, or modification, of cultural landscapes within the same environment.

The aforementioned variables also indicate that other scenarios are possible that need to be considered. As Rapoport (23. 1990-1991; 39. 1992) has pointed out, populations are becoming increasingly more diverse and there is increasing variability even within distinct groups. Among the issues that can arise, considering this information, are generational differences, involving differential degrees of acculturation, education, aging, health, lifestyle, economic status, etc., as well as culture change, fashion, household constitution, and occupation. While these can be observed diachronically as well, they indicate that there is potential for synchronic variability (diversity) in the environment too. In an immigrant population, local services might, for example, be required by a less acculturated portion of the group, while the more acculturated portion might have a greater "home range" within which they can satisfy their needs, leading to potential modifications in the local retail mix or use of space. (Conversely, assimilated people may return to the area for ethnic goods not available elsewhere.)

The potential for these two degrees of variability in an environment, considered as change (diachronic variability) and diversity (synchronic variability), indicate a need for designs that are "flexible" or "open-ended." Through the accommodation of variability, the environment can be seen as more supportive of its occupants’ environmental preferences and needs, and thus more likely to avoid environmental obsolescence. (23. Rapoport 1990-1991) The occupants’ preferences have been conceptualized as an “environmental quality profile” with which the environment is evaluated. The more congruent the environment is with this profile, the more highly it will be esteemed by the users and the more successful it will be in terms of supporting their lifestyle. (39. Rapoport 1977) If the environment is not congruent with the profile, Rapoport (39. 1977; 23. 1990-1991) suggests that one of several things might occur: the people might leave the environment, they might modify their lifestyle,
change their expectations, become resigned to the incongruity, or they might modify the use or the physical structure of the environment to achieve congruence. (39. Rapoport 1990-1991) In seeking to achieve this congruence, the rule systems discussed in the previous section play a significant role and accordingly, the latent aspects (e.g., meaning) of the environment are just as important, if not more so, as the manifest aspects. (39. Rapoport 1977; 39. 1982a/1990; 23. 1990-1991)

In the discussion above, we have been considering synchronic and diachronic variability, as effected by a single occupant group or through the process of sequent occupancy, that is facilitated or inhibited by the environment. This quality of the environment has been identified by several terms, but this paper will use “open-endedness” as the overarching concept. Open-endedness has been defined as “...the overall capacity to accommodate a wide range of user needs and wants, at one time or over time...” and this concept encompasses two strategies: adaptability and flexibility. (23. Rapoport 1990-1991)

Adaptability, in this conception, can also be characterized by the terms “loose-fit” (23. Rapoport 1990-1991) or “breathing room” (27. Vernez Moudon 1986a). Its application in design, as the terms suggest, is a means of providing environments that, without the need for reconfiguration, facilitate an array of differing (and potentially unforeseen) uses. The Victorian house (23. Moudon 1986a; 24. Rapoport 1968; 23. Rapoport 1990-1991) or the Georgian terrace, (24. Cowan 1963) are often provided as examples of building types that are adaptable. Through the generous allocation of space, the independent circulation system, fenestration in most significant rooms, the ability of adjacent spaces to “overspill” into one another, and the use of simple room geometries, these buildings’ interiors have often accommodated a great variety of occupants over their history. Some houses, through the “anonymity” of the rooms within, have been converted from single family occupancy to apartment units, and often back to single family occupancy, while others have been converted to retail and office uses. (24. Rapoport 1968; 27. Vernez Moudon 1986a) The 19th Century rowhouse in New York City is another example of a building type that has served equally well in single family, multi-family or commercial use.

Flexibility, on the other hand, is characterized by the ability of the environment to be physically reconfigured/modified. This ability enables the environment to be incrementally changed to suit new conditions. In typical design proposals, flexibility is manifest in moveable partitions. Habraken (27. 1988) describes a more vernacular example through a discussion of the development of the component-based, wood-frame, residential construction industry in the United States. This vernacular construction system easily accommodates a tendency to “do-it-yourself” and a manifestation of flexibility within this system can be seen in the ability to add dormers in the unfinished attic of the original Levittown Cape Cod houses, which provide new, upstairs rooms and personalizes the exterior. Another example is provided by a study of wood-frame, “manufactured” housing con-
structed at Indian Head, Maryland during World War II. The study found that common modifications of these detached dwellings included the addition of “... picture windows, shutters... carpent and fireplaces. The majority of residents also made major changes by adding space to the dwelling.” (24. Rabinowitz & Stanek 1970) Both of these examples return to the issue of latent and manifest aspects of the environment and it should be reiterated that both need to be accommodated through “open-endedness.”

Building upon the findings of studies of open-ended residential buildings, Cynthia Doll (24. 1987) developed a matrix of 78 criteria that could be used to assess multi-family housing proposals for their potential flexibility and adaptability. These criteria consider a range of functional and expressive requirements and were used to evaluate nine different design schemes that were represented as being open-ended.

While most of the work presented so far has been drawn from housing – the majority of the work on “open-endedness” has been focused primarily on housing – Francis Duffy (23. Brand 1994) has developed a model around differential rates of change applicable to commercial buildings. The model has four categories: Shell, Services, Scenery and Set. The shell is comprised of the long-lived structure of the building; the services are the utilities; the scenery is the partitions and ceilings, and the set, the furniture. Stewart Brand (23. 1994) has elaborated on these, and moved away from Duffy’s exclusive focus on commercial interiors, to develop a six-level model, comprised of: Site, Structure, Skin, Services, Space Plan, and Stuff. Called “shearing layers of change,” the elements on each of the six-levels, due to their differing rates of obsolescence, replacement and change, result in a building that is continuously “...tearing itself apart.”

At the largest scale that he has identified, Brand argues that the “Site is eternal” and by this he means that elements of the environment falling in his first category, like lots, tend to “... outlast generations of ephemeral buildings.” This implies a rigidity though that would appear to be more true of larger scale elements than lots (e.g., streets, blocks or districts). Lots, particularly those situated near corners, tend to vary considerably over time and often to accommodate new buildings. (see: 27. Groth 1981; 27. Moudon 1986a & 1986b; or Chapter Three of this study). His next category, Structure, is exactly what it claims to be, the load-bearing portions of the building. Structure he argues, is the building, as a result of its tendency to remain consistent throughout the life-cycle of the building in contrast to the other elements. Skin, the exterior surface of the building, tends to change approximately every twenty-years in response to fashion, technology or wear. Services, the utilities, last only 7 to 15 years and he states that many buildings are demolished if their services are too difficult to change. The life-span of a building’s Space Plan (walls, doors, ceilings... ) varies from 3 years on average for a commercial interior, to 30 for some homes. His final category, Stuff, is comprised of semi-fixed features like furniture, and they can change on a daily basis.
All of these together require "an adaptive" (flexible in this project’s terminology) building that "... has to allow slippage between the differently-paced systems..." Interestingly, he states that standard stud-wall construction "over-connects" these six-levels which restricts their ability to change. The two examples cited above, Habraken's observation and Moudon's study (27. 1986a) seem to indicate exactly the opposite.

Urban-scale research has been limited largely to Moudon's 1986(a) study, *Built for Change* and some of N.J. Habraken's work (e.g., *Transformations of the Site*, 1988, 3rd ed.) Other works have focused on the street grid as a framework that provides the structure for open-endedness at smaller scales. (27. Groth, 1981; 26. Marshall, n.d.) Groth does move to a finer scale in discussing lots as "infill" in the framework and he touches upon their variability and the implications of differential lot size in bringing "variety" to the streetscape, as well as influencing the location of structures and alleys. Moudon (27. 1986a, 1986b) has made similar observations that will be discussed later.

Transportation infrastructure as the framework for a variable infill was also a fundamental consideration in the design of the English New Town of Milton Keynes. Rejecting the concept of a "neighborhood unit" as a fundamental component of urban design, the new town was to be "... a field of possibilities ..." without the predetermined focal points and imagery, or the classified land use typical of other urban plans. (27. Brett 1994) Based on the idea that if "... there is to be freedom of choice, there must be freedom of movement ..." (27. Llewellyn-Davies 1972) a grid of roadways was established, with intersections roughly one-kilometer apart (approx. 2/3 of a mile) to act as the neutral framework for adaptable infill development. The framework concept was not carried below the grand scale of the one-kilometer grid though, and this unfortunately presents limited opportunity for insights at scales below the "district" level.

Rapoport (39. 1977) suggests that in looking at open-endedness and frameworks, with regard to scale, that in an urban environment larger scale elements require more consistency and that as the scale of the elements decreases the need for variability/open-endedness increases. Accordingly, the larger scale elements become the static framework for the finer-scale "infill." This would permit the city as a whole to be comprehensible to the entire population while also supporting increasingly idiosyncratic preferences/needs of the subgroups present at smaller scales. Elsewhere, Rapoport (23. 1990-1991) proposes a hierarchy of elements arranged in terms of decreasing scale that may provide conceptual clarity in looking at open-endedness in the city. These elements range from: Settlement; Neighborhood; Micro-Neighborhood; Subsystem of Neighborhood; Block, Dwelling Cluster, Dwelling, Subsystems of Dwellings, Room, and Smaller than Room.

Anne Vernez Moudon (27. 1986a, pg. 89-90) has proposed a similar model for the "neighborhood architecture" of San Francisco consisting of: Peninsula, Roads
and Streets; City Blocks (& Lots); Buildings; and Rooms. (The “smaller than room” category is recognized but considered outside of the scope of the project.) In seeking to disclose open-endedness across the range of scales, the study pays particular attention to environmental resilience and “breathing space” (synonymous with adaptability, and the term I will continue to use.) Features identified at the larger scales (with overlap at the build-

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<td>Major Arteries</td>
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<td>Interior Arrangement</td>
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<td>6</td>
<td>Body &amp; Utensils</td>
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In regard to the issues of personalization and flexibility, the study concludes that “remodelling is... a necessary act of appropriation...” and that these actions are somewhat independent (“infill”) of the larger scale elements defining the street which are more dependant on “...fa-

N. J. Habraken (27. 1988) also has developed a hierarchical classification which he presents in a table, (pg.

The table is structured to present a list of components, or to use his term, “elements,” of the urban environ-

Figure 1-1 -- Habraken's Model

TOWARDS URBAN FRAMEWORKS 11
tinuum of adjacent scales. Also of note is his consideration of “Understanding.” This is an influence that transcends the relations established by adjacency in the model and is represented by “shared values.”

The Legal Framework: The Role of Formalized Rule Systems

As the previous section indicated, formal rule systems can also be considered in terms of frameworks and a survey of works that have studied the effect of formal rule systems on the environment has disclosed a small body of work of wide ranging geographic focus. The researchers/architects that have focused attention on the legal framework with regard to open-endedness and/or influence on the cultural landscape, include: Anne Vernez Moudon (27. 1986a), Jorge Rigau (38. 1992), Jonathan Barnett (38. 1981 & 1974), Richard Plunz (35. 1990 & 38. 1993), Besim Hakim (38. 1994 & 1988) Norman Williams, Jr., Edmund Kellog & Peter Lavigne (38. 1987) and Robert Greenstreet (38. 1991).

These formal rule systems are of considerable import in the contemporary design process and can be set within a similar context of “support” and “infill” conceptually. (38. Rapoport 1977 & 1992, verbal communication) Historically, these formal rule systems tended to be implemented as the informal systems began to fail in the face of increasing social, cultural, demographic and technological change. As the populations of settlements became increasingly diverse and new territories were made available for settlement, codes and regulations regarding the construction and maintenance of the physical environment became accepted as fundamental to the ability to accommodate and guide change. (38. Haar & Wolf 1989; 38. Rigau 1992; 39. Rapoport 1977)

Outgrowths of this philosophy important to this discussion include: zoning ordinances, master plans, special districts, historic districts, design guidelines, building codes, housing ordinances, fire codes, sign ordinances and even peddling and parking regulations. The relation of each of these to change can be seen as analogous to “supports” considering that they often proscribe change, or constrain it to conform to a particular model. The former is supported by the following statement that initially zoning “…simply had to reinforce existing land use patterns, not predict future ones.” (38. Kelly 1988) However, in response to the initial inability of zoning ordinances to effect more specific, and localized, control over change, an array of “special techniques” was developed. Among these techniques were special districts, which are “…overlay districts, superimposed on one or more existing zoning districts… that can be tailored to fit the needs of specific districts, providing flexibility to control specific aspects of uses…” (38. Shirvani 1985) These districts have been extensively enacted and New York City had established by 1984, 44 historic districts that contained over 16,000 buildings, (38. Haar & Wolf 1989) and 38 more general special districts, one of which was later removed. (38. Shirvani 1985; Marcus 1993) These districts, which endeavor to preserve environments considered of special historical, cultural or architectural
significance obviously have considerable impact on change and the creation of new cultural landscapes (see: 38. Williams, Kellog & Lavigne 1987 or: Essex County Council 1973).

The “conservative” nature of these districts is of great significance in the creation of an environment that accommodates change. If used judiciously, they can unwittingly become political weapons in the “conflict” between the “invading” and the “receding” populations (in terms drawn from Cressey’s (39. 1938) model). For example, during a public session of the NYC Board of Estimate, addressing the creation of the Little Italy Special District to protect the character of the rapidly disappearing Little Italy before the encroaching Chinatown, one Chinese spokesman stated, “How can you propose what no longer exists?” (19. Solochek 1977) Of course, many issues factor into such designations, including the city’s desire to establish “ethnic festival marketplaces” to attract tourists downtown (see: 5. Margulis 1992) and, in the Little Italy case, the strong identification of an assimilated population with the neighborhood.

These frameworks have also been effected to create new cultural landscapes, and codes and regulations are, in fact, the foundation of the Neo-traditional planning movement as practiced by the firm of Duany Plater-Zyberk (DPZ) (Rigau 38. 1992) also presents a historical view of the role of codes in the creation of cultural landscapes in Puerto Rico. DPZ’s standard town-planning practice is to develop a clearly articulated, and concise set of codes that include: the Regulating Plan, which defines streets, lots, open spaces, and public buildings; the Urban Regulations, which define building uses, placement (e.g. setbacks, required frontage & max. footprint) on the lot, height, outbuildings and required parking and its placement; the Architectural Regulations, which regulate materials, configurations and construction techniques; the Street Types, which provides dimensions for the street sections including travel and parking lanes, sidewalks, planting locations and building heights; and Landscape Regulations, which specify appropriate species and location of plantings. (40. Krieger & Lennertz 1991) Architect Peter Calthorpe has also developed a set of guidelines for “transit-oriented” communities that share much in common with the work of DPZ. (40. Calthorpe 1993)

DPZ’s model of the “city,” comprised of the “development,” streets and open spaces, blocks, lots and buildings, is quite similar to Moudon’s, presented in the previous section, and its major structural difference is that it stops short of the scales finer than the building scale (more specifically, it doesn’t address the interiors of the buildings.) It is of course, philosophically opposed to the other models in the degree of the “supports” that it imposes, which include components of the environment that are significant to the expression of latent aspects of cultural landscapes. It shares this in common with many special districts that often restrain the location of entries, window placement, window size, materials, colors, signage, setbacks, etc. The aforementioned work by Williams, Kellog and Lavigne (38. 1987) entitled Vermont Townscape, discusses similar controls that have been
applied in Woodstock and Wilmington, Vermont. These controls constrain height, setback, elevational proportions, solid/void relationships, materials, signage, colors, "architectural features," orientation, roof shape and landscape features.

Conclusion

This chapter has endeavored to lay the groundwork for the case study presented in the following chapters. This groundwork is based upon the three concepts of: sequent occupancy, cultural landscapes and physical and legal frameworks. As the case study is introduced in the following chapter, these concepts will become increasingly intertwined in the discussion and a model of urban frameworks specific to this project will emerge. To set this process in motion, the next chapter begins with a broad discussion of the study's historical, social and environmental context on the Lower East Side of New York City.